

**LEGISLATION TO PROHIBIT THE IMPORTATION OF
PRODUCTS MADE BY TOSHIBA CORP. AND
KONGSBERG VAAPENFABRIK CO.**

HEARING
BEFORE THE
SUBCOMMITTEE ON TRADE
OF THE
COMMITTEE ON WAYS AND MEANS
HOUSE OF REPRESENTATIVES
ONE HUNDREDTH CONGRESS

FIRST SESSION

—
JULY 14, 1987
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**LEGISLATION TO PROHIBIT THE IMPORTATION
OF PRODUCTS MADE BY TOSHIBA CORP. AND
KONGSBERG VAAPENFABRIK CO.**

TUESDAY, JULY 14, 1987

**HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
SUBCOMMITTEE ON TRADE,
*Washington, DC.***

The subcommittee met, pursuant to notice, at 2 p.m., in room 1100, Longworth House Office Building, Hon. Sam M. Gibbons (chairman of the subcommittee) presiding.

[The press release announcing the hearing follows:]

FOR IMMEDIATE RELEASE
WEDNESDAY, JULY 1, 1987

SUBCOMMITTEE ON TRADE #10
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
1102 LONGWORTH HOUSE OFFICE BLDG.
WASHINGTON, D.C. 20515
TELEPHONE: (202) 225-3627

THE HONORABLE SAM M. GIBBONS (D., FLA.),
CHAIRMAN, SUBCOMMITTEE ON TRADE, COMMITTEE ON WAYS AND MEANS,
U.S. HOUSE OF REPRESENTATIVES, ANNOUNCES A PUBLIC HEARING
ON LEGISLATION TO PROHIBIT THE IMPORTATION OF PRODUCTS
MADE BY TOSHIBA CORPORATION AND KONGSBERG VAPENFABRIK COMPANY

The Honorable Sam M. Gibbons (D., Fla.), Chairman of the Subcommittee on Trade, Committee on Ways and Means, U.S. House of Representatives, today announced that the Subcommittee on Trade will hold a public hearing on legislation which would prohibit the importation of goods produced by Toshiba Corporation of Japan and Kongsberg Vapenfabrik of Norway. The hearing will be held on Tuesday, July 14, 1987, in the main Committee hearing room, 1100 Longworth House Office Building, beginning at 2:00 p.m.

The question of import sanctions against Toshiba and Kongsberg Vapenfabrik arises due to those companies' violation of export controls designed to prevent the sale of sensitive technology to the Soviet Union and other Eastern Bloc countries. Toshiba sold to the Soviets a sophisticated, numerically-controlled milling machine used to make ship propellers. Kongsberg Vapenfabrik sold the computer to operate the milling machine. This technology will enable the Soviet Union to make submarine propellers which operate with significantly less noise and make their detection much more difficult.

The Subcommittee currently has two bills before it relating to the two companies. H.R. 2698 (introduced by Mr. Wilson of Texas) would prohibit U.S. imports of any goods produced by Toshiba or Kongsberg Vapenfabrik or any successor or controlled entity for a five-year period. H.R. 2241 (introduced by Mr. Hunter, Mr. Crane, et al) would bar U.S. imports of any goods from the two companies or their affiliates or subsidiaries and would prohibit Department of Defense contracts with either company; no termination date is specified.

DETAILS FOR SUBMISSION OF REQUESTS TO BE HEARD:

Requests to be heard must be made by telephone to Harriett Lawler [telephone (202) 225-3627] by close of business Thursday, July 9, 1987. The telephone request should be followed by a formal written request to Robert J. Leonard, Chief Counsel, Committee on Ways and Means, U.S. House of Representatives, room 1102 Longworth House Office Building, Washington, D.C. 20515. The Subcommittee staff will notify by telephone those scheduled to appear as soon as possible after the filing deadline. Any questions concerning a scheduled appearance should be directed to the Subcommittee office [(202) 225-3943].

In view of the limited time available to hear witnesses, the Subcommittee may not be able to accommodate all requests to be heard. Those persons and organizations not scheduled for an oral appearance are encouraged to submit written statements for the record of the hearing. All persons requesting to be heard, whether they are scheduled for oral testimony or not, will be notified as soon as possible after the filing deadline.

Witnesses scheduled to present oral testimony are requested to briefly summarize their written statements. The full statement will be included in the printed record.

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In order to assure the most productive use of the limited amount of time available to question hearing witnesses, those scheduled to appear before the Subcommittee are required to submit 150 copies of their prepared statements to the Subcommittee on Trade office, room 1136 Longworth House Office Building, at least 24 hours in advance of their scheduled appearances. Failure to do so may result in the witness being denied the opportunity to testify in person.

WRITTEN STATEMENTS IN LIEU OF PERSONAL APPEARANCE:

Persons submitting a written statement in lieu of a personal appearance should submit six (6) copies of their statements by the close of business Friday, July 17, 1987, to Robert J. Leonard, Chief Counsel, Committee on Ways and Means, U.S. House of Representatives, room 1102 Longworth House Office Building, Washington, D.C. 20515. If those filing a written statement for the record of the printed hearing wish to have their statements distributed to the press and the interested public at the hearing, they may provide 75 additional copies for this purpose to the Subcommittee office, room 1136 Longworth House Office Building, before the hearing begins.

SEE FORMATTING REQUIREMENTS BELOW:

COMMITTEE ON WAYS AND MEANS FORMATTING REQUIREMENTS FOR PRINTING OF HEARING STATEMENTS, WRITTEN COMMENTS AND EXHIBITS

Each statement presented for printing to the Committee by a witness, any written statement or exhibit submitted for the printed record or any written comments in response to a request for written comments must conform to the guidelines listed below. Any statement or exhibit not in compliance with these guidelines will ~~not~~ be printed, but will be maintained in the Committee files for review and use by the Committee.

1. All statements and any accompanying exhibits for printing must be typed in single space on legal-size paper and may not exceed a total of 10 pages.
2. Copies of whole documents submitted as exhibit material will not be accepted for printing. Instead, exhibit material should be referenced and quoted or paraphrased. All exhibit material not meeting these specifications will be maintained in the Committee files for review and use by the Committee.
3. Statements must contain the name and capacity in which the witness will appear or, for written comments, the name and capacity of the person submitting the statement, as well as any clients or persons, or any organization for whom the witness appears or for whom the statement is submitted.
4. A supplemental sheet must accompany each statement listing the name, full address, a telephone number where the witness or the designated representative may be reached and a topical outline or summary of the comments and recommendations in the full statement. This supplemental sheet will not be included in the printed record.

The above restrictions and limitations apply only to material being submitted for printing. Statements and exhibits or supplementary material submitted solely for distribution to the Members, the press and public during the course of a public hearing, may be submitted in other forms.

* * * * *

Chairman GIBBONS. The meeting will come to order. Let's all take seats.

This is a meeting of the Subcommittee on Trade of the Committee on Ways and Means. We are here today to discuss the diversion of sensitive military-use technology to the Soviet Union by two companies, Toshiba Machine Corporation of Japan and Kongsberg Trading Company of Norway, and related legislation pending before this Subcommittee.

The question of sanctions against Toshiba and Kongsberg arises due to those companies' violation of export controls designed to prevent the sale of sensitive technology to the Soviet Union and other Eastern Bloc countries.

Toshiba sold to the Soviets a sophisticated numerically controlled milling machine used to make ship propellers. Kongsberg sold the computer to operate the milling machine. This technology will enable the Soviet Union to make submarine propellers which operate with significantly less noise, and make the detection of their submarines much more difficult.

The sale of this equipment to the Soviet Union violated restrictions agreed upon by the Coordinating Committee on Multilateral Export Controls.

The Governments of Norway and Japan have taken certain steps to penalize the companies and individuals involved, and the Government of Norway has prepared legislation to tighten its export control system. A high-level COCOM meeting will take place in Paris this week to discuss strengthening of domestic laws relating to export controls among all COCOM members.

This issue is of serious concern to all of us. Of equal concern is the appropriate way to respond to this violation. The two bills before the Subcommittee propose an across-the-board ban on imported materials from Toshiba and Kongsberg.

One bill would also prohibit Defense Department contracts with either of the firms. The purpose of these hearings is to gain greater insight into the problem of diversion of technology and possible responses to the problem, and the implication of the bills before us on U.S. international trade relations and obligations.

I would also say that there are many implications of this event upon the U.S. domestic economy, both as strictly a domestic problem and as it relates to our national security problems. We intend to take all of those factors into consideration.

Due to the length of our witness list, I urge the witnesses to limit their opening statements to 5 minutes to allow ample time for questioning.

Our first witnesses this afternoon are our colleagues from the House, Mr. Wilson, Mr. Hunter, Mr. Lukens, and Mr. Rowland. Mr. Wilson and Mr. Hunter are sponsors of legislation before the subcommittee. Mr. Rowland has sponsored a bill pending in another committee. Another colleague, Mr. Don Bonker, will join us shortly to provide views of the issue from the perspective of the Foreign Affairs Committee.

And Mr. Wilson, do you want to be heard now, or later?

Mr. WILSON. Later, Mr. Chairman. Thank you.

Chairman GIBBONS. All right. Fine. We will hear you later.

Mr. Hunter, will you begin, please.

STATEMENT OF HON. DUNCAN HUNTER, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF CALIFORNIA

Mr. HUNTER. Thank you, Mr. Chairman.

Thank you for the privilege of testifying before you today. I have a prepared statement that I would like to ask permission to enter into the record, and I will give you a summary.

Chairman GIBBONS. Yes, sir. Without objection, your statement, and all other statements, will be entered in the record.

I will warn all Members of the Committee, and the witnesses, that the mikes are "live", and the mikes are "live" all the time, so if you want to be careful about what you say on the air, you had better be very, very careful.

Mr. HUNTER. Thank you, Mr. Chairman. I want to say, from the outset, that I support also the legislation of Mr. Wilson, Mr. Rowland, and Mr. Lukens, who will be joining us shortly.

Mr. Chairman, this is a case of treason and treachery by the Toshiba Corporation. It is a clear-cut case of a corporation selling to the Soviet Union the wherewithal for the Soviet Navy to more effectively kill American men and women in uniform, and I want to give you a short description of what took place.

The Soviet Union realized at one point, that they needed machines that would make advanced submarine propellers, and would reduce the cavitation of those propellers and thereby eliminate the noise that enables our forces to detect those Soviet submarines.

The Toshiba Corporation manufactures such machines. They are called the MBP-110s, and they are prohibited for export to the Soviet Union by COCOM regulation IL-1091.

Toshiba, after meeting with KGB agents, changed the name, put phony names on this MBP machine, on a one-time basis. They changed it to the 70-110. They took off the numerical controller. Kongsberg, in Norway, agreed to provide the numerical controller which is also prohibited from export.

They sent the controllers to Tokyo, married the controllers up with this MBP machine, and they submitted it for licensing under a phony destination, when in reality, they intended to ship the machines with the numerical controllers to the Baltic Shipyard in the Soviet Union.

They met with KGB agents in Tokyo who tested the machines, examined the machines with Toshiba executives. They made the sale, they made the transfer, and Toshiba and Kongsberg teams went to the Soviet Union and installed the machines to ensure that they were working properly.

They also entered, Mr. Chairman, into a five-year agreement to work on the machines, to service and handle the equipment. So this was not a one-time sale. It included a five-year service contract, both from Kongsberg and from Toshiba.

Now, Mr. Chairman, I want to talk about four elements in this case that I think are very important. One is damage. Were we damaged? And we hear a lot of things. There were some ads in the Washington Post to the effect that we really have not been damaged.

We absolutely have been damaged. Any Member in this Congress can read the classified reports that reside in the safes in the

Armed Services Committee. Without getting into classified material, I can tell you that this treachery that was practiced by Toshiba and Kongsberg, has allowed the Soviet Union to build propellers that will allow their submarines to come in twice as close as they could before, to our forces, before we are able to detect them. At least twice as close.

We have been damaged very seriously, and in my estimation, as a member of the Seapower Subcommittee which authorizes submarine construction, we are going to have to build, now, an additional 30 submarines over the next five to ten years. We are outnumbered right now, 297 to 97 in attack submarines, almost three to one by the Soviet Union.

In the past, we have been able to live with this numerical inferiority because we had such a qualitative superiority. We were able to hear their submarines coming from a long distance before they could hear us.

That qualitative advantage, because of Toshiba's and Kongsberg's treachery has shrunk, in my estimation—and I have reviewed and analyzed all of the information—we are not going to be able to live any longer with this three to one disadvantage.

We are building submarines right now under a plan of about four 688's a year—that is our latest model—and our new model will be the SSN-21.

We are going to enter into production of about two SSN-21's per year, and maybe at some point kick it up to three. That will allow, with a 30-year life expectancy of a submarine, us to maintain approximately a 100-boat submarine force, attack submarine force, and we have about 100 attack subs right now.

I do not think we can live with that three to one numerical disadvantage any longer because Toshiba and Kongsberg have allowed the Soviets to shrink the qualitative advantage. I think we are going to have to build an additional 30 boats over the next five to ten years, and as a Member of the Seapower Subcommittee, that is going to be my recommendation in mark-up. Those boats are going to cost us a little over \$1 billion apiece. That is the price tag on the SSN-21.

So we are looking at a cost of approximately \$30 billion, in my estimation, not counting research and development. Now you are going to have a lot of lobbyists from some American companies, maybe from Toshiba today, telling you about what they consider to be an intolerable economic disadvantage that will accrue to this country if we ban Toshiba.

Let me just tell you, Mr. Chairman: the Armed Services Committee, as a result of this technology transfer, has already marked up in the Armed Services bill, an additional \$113 million, this year, in advanced submarine research and development, to try to widen back out this qualitative advantage that we lost because of Toshiba and Kongsberg.

So the American taxpayers are already spending this year \$113 million, which I think is probably more than the total payroll of the some 4,000 workers whose jobs are attributed to our trade with Toshiba and Toshiba's production, and their sales in the United States.

Let me just tell you, Mr. Chairman, some of the damage can never be repaired. We have other ways of detecting submarines besides our own submarine forces and besides the airborne forces.

They have put us in a position where our underwater detection systems—and you can get a better briefing in classified session—will never be as effective, no matter how much money we spend, as they were before, because of this technology transfer.

So they have irreparably damaged the security of the United States. A second point is I think we need to establish deterrence, deterrence to Western corporations who would sell out the United States to the Soviet Union for money, and I think that is the problem with some of the softer solutions that have been offered by industry.

I know the Secretary of Defense has said, well, Japan is working with us and we think that is enough. The problem is you have Western corporations right now that are making decisions as to whether or not to sell prohibited technology to the Soviet Union for money.

Mr. Lenin said the capitalists will sell us the rope with which we are going to hang them, and some Western companies, since he said that, have attempted to prove him right.

Very simply, if we continue to do business with a company that made a corporate decision to sell out the West to the Soviet Union for money, we will never have an effective deterrence against other companies that right now are deciding whether or not they are going to take the same direction.

Some of those companies are in financial trouble, they need money, and the Soviet Union is offering them money. Unless we let those companies know that we are not going to tolerate that type of action, by hitting them in the one place where it hurts, in the pocketbook, other companies are going to sell out the West. Right now there is no deterrence.

The president of Toshiba resigned with great flourish. He is not going to commit hari-kari, Mr. Chairman. He is going to come on as a consultant to the Toshiba Corporation, and he is probably going to make as much money as a consultant, as he was as president of the corporation.

In Kongsberg there has been one indictment, and that was of a British national. None of the Norwegians who were involved in this transfer of the Kongsberg numerical controller to the Soviet Union have been indicted, and it is anticipated none of them will be indicted.

Even if there is a criminal punishment, the maximum punishment is approximately that of a four-time drunk driver. The maximum punishment is one year in jail, and a fine.

And let me just say, Mr. Chairman, Kongsberg and Toshiba made about \$17 million on this transfer. That was the total amount of the transfer. As I have said, it is going to cost the United States billions and billions of dollars—I think \$30 billion because I think we have got to build 30 more submarines as a result of this transfer.

Third, Mr. Chairman, with regard to jobs. Some of the lobbyists today are going to talk about jobs, and let me just tell you: if Toshiba was forced to transfer their licenses to American industry be-

cause they could not do business in this country, it would probably create about 100,000 jobs.

The only table scraps that American industry is getting from Toshiba right now has to do with marketing, a little bit of production. I think approximately 4,000 jobs. So I think we could increase jobs.

Another point that has been made by industry is we depend on Toshiba and other suppliers for these valuable components of our industrial base, including our defense industrial base.

I think it is time the United States woke up. If in fact we are relying on other sources for important components of our industrial base, we may be taking the wrong path. If Toshiba can say you have got to have this new chip that we produce, and you cannot get it anywhere else, it may be time for us to change our policy.

IBM, incidentally, does make a chip that is a little bit better than the Toshiba chip that has been talked about so much, and American industry can live with that new chip, or with going about acquiring a chip on their own that can do the job of this RAM-D chip that has been discussed so much in the paper.

I think that we can live without Toshiba technology and I think we had better train ourselves to live without Toshiba technology. So I do not think the industrial base is any problem.

And finally, let me just finish off by saying one thing about H.R. 3. H.R. 3 eliminates a number of the important export controls on militarily critical technology to the Soviet Union that I think are necessary.

There are some 5,000 Soviet programs that are being conducted right now, weapons systems that are being built with American technology that was illegally obtained, or Western technology that was illegally obtained.

H.R. 3, by arbitrarily saying you have got to cut out 40 percent of the proscribed exports, or proscribed militarily critical technologies, is putting us in a position where the Soviet Union is going to have a much easier time of it in obtaining American technology, and I agree with Richard Perle that H.R. 3 ought to be called the 1987 Soviet Technology Acquisition Act, because that is precisely what it is.

Now that is getting off the subject a little bit, but let me just close by saying that I think Toshiba should be given a corporate life sentence. That means they should be banned from the United States because they have made it easier for the Soviets, in time of war, to kill Americans. I think they should be given a corporate life sentence for this treachery, and I think anything less than that is going to send the wrong signal to other companies that are about ready to make this decision.

And I think we have to ask ourselves, as Members of Congress, who are we going to listen to, the lobbyists in Washington or the American people, and what is going to be our prime consideration?

The economic table scraps that Toshiba gives to this country, or the safety of our men and women in uniform?

I thank you for allowing me to proceed for so long.

[The statement of Mr. Hunter follows:]

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45TH DISTRICT, CALIFORNIA

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RESEARCH AND DEVELOPMENT

SELECT COMMITTEE ON
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TESTIMONY BY REPRESENTATIVE DUNCAN HUNTER (CA-45)

BEFORE THE COMMITTEE ON WAYS AND MEANS

SUBCOMMITTEE ON TRADE

July 14, 1987

Mr. Chairman and Members of the Subcommittee, I appreciate being here today to address what has been described as one of the worst cases of technology transfer in well over a decade. This transfer of sensitive technology was not an accident and not a one-time transfer. It was a transfer that was planned and profitable, complete with labor, parts and service. In my opinion, it is best described as an act of treason and treachery.

By now, many of the facts surrounding this case are known. In 1981 contracts were signed between the Soviet Union, Toshiba Machine of Japan and Kongsberg of Norway for the delivery of four 9-axis propeller milling machines and numerical controllers. In addition, the contract included service and spare parts for five years. After filing false documents, the equipment was shipped to the Baltic Shipyard in Leningrad starting in 1983 and completed in 1984. Technicians from Toshiba and Kongsberg travelled back and forth to Leningrad half-a-dozen times for modifications. How much did it take for these corporations to sell out the West? 17 million dollars.

These facts alone are enough to warrant sanctions; however, the story continues. In April 1983 another contract was signed between Toshiba Machine and the Soviet Union for four 5-axis propeller milling machines. These were shipped to the Soviet Union, two in April 1984, two in May 1984.

While it was first believed that the milling machines were used only on submarine propellers, it has been reported that the milling machines were also used to improve the propellers on the new Soviet aircraft carriers.

What does all this mean to the United States? A loss in national security at a significant cost to the U.S. taxpayer. Soviet submarines are now significantly more quiet, and in my estimation it will cost the U.S. \$30 billion to repair the damage to our national security. For many years, the U.S., while suffering from a quantitative loss, held a significant qualitative lead. As a member of the Seapower Subcommittee of the House Armed Services Committee (HASC), I do not believe that the U.S. can now live with the Soviet quantitative lead in submarines. Currently, the Soviets have 364 submarines versus a U.S. fleet of 139. From testimony I have heard we will need to add at least 30 new submarines to our fleet to counter the increased Soviet threat.

I believe the Subcommittee members will be interested to know that the HASC has already taken action to address the new threat

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created by the illegal sale of Toshiba and Kongsberg, by authorizing approximately \$113 million for research and development for advanced submarine technology. For those who argue that this illegal diversion of technology does not threaten U.S. national security--they are wrong. It indeed threatens our security and already the U.S. taxpayers are paying for the wrongs of Toshiba and Kongsberg.

I believe we must take strong and swift action against both corporations involved in the illegal transfer. As you know, I have introduced legislation, H.R. 2241, which would ban Toshiba and Kongsberg from Department of Defense contracts and ban Toshiba from exporting to the United States. My colleagues, Mr. Wilson and Mr. Rowland, have also introduced legislation calling for action against both firms.

Many will argue that action has already been taken by both governments--this will be sufficient--the U.S. should do nothing. Well, Mr. Chairman, in my opinion and the opinion of many others neither country has taken severe enough action to deter this kind of behavior in the future.

To date the government of Norway has taken little action against Kongsberg. While they have closed down a portion of the company, action against individuals involved in the transfer has been practically nonexistent. The Norwegian government has decided to indict only one individual--a British national--despite reports that as many as five individuals could have been indicted.

The action by the Japanese government has been equally distressing. The government has prohibited Toshiba Machine from shipping directly or indirectly to Coordinating Committee on Multilateral Export Controls (COCOM) regulated countries and the head of Toshiba Machine has resigned. C. Itoh, a trading company involved in the illegal transfer, received a three month sanction. Two top executives at Toshiba Corporation resigned; however, they will be staying on as consultants. For a corporation that in 1985 had more than \$17.5 billion in assets and sales in the U.S. of between \$2 to \$3 billion, I feel this action by the Japanese government is not enough. I think it is worth noting that convicted spy John Walker will never leave the Federal maximum security prison at Marion, Illinois. His son, now in his twenties, will be middle aged when he is paroled. If his brother and his friend Jerry Whitworth are ever paroled, they will be old men.

I believe the House of Representatives must press for import sanctions. I feel the action taken earlier by the House calling for discussions regarding compensation will deter. The Senate has passed an amendment to the trade bill calling for import sanctions and compensation--this action will deter.

I know my colleagues recall the story of "Shoeless Joe" Jackson. A Chicago Black Sox pitcher who threw a baseball game in 1920. "Shoeless Joe" was given a very severe penalty--he was banned forever from baseball. Many said that the penalty was too tough, but it sent the right message to baseball players--don't sell out the sport of baseball.

My legislation will send the right message to businesses -- you will be severely punished if you sell out the West. In order to protect our national security we must send this message; I urge this Subcommittee to send this message.

Unfortunately, Mr. Chairman, I feel we may already be sending the wrong message. With the changes in H.R. 3, the House passed trade bill, we are already saying "yes we agree, profit is more important than national security." Over the past several years there has been much debate over who should be in charge of determining what technology can be sold. I've argued that it should be the Secretary of Defense, others have argued the Secretary of

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State or Commerce. But I cannot believe that there are those who argue that the Secretary of Defense should be excluded from the process. I strongly believe the voice of the Secretary of Defense is essential to the process of determining what technology can be transferred safely among our allies and others.

Many have dubbed the provisions in H.R. 3 as the "Soviet Military Technology Relief Act." I couldn't agree with this assessment more. These provisions would repeal the Secretary of Defense's authority to review most sensitive exports, end licensing requirements and arbitrarily release 40 percent of the items now controlled. With this measure militarily sensitive technology will flow freely to the Soviet Union. Certainly the case involving Kongsberg and Toshiba has shown us that we must maintain tight control over sensitive technology. I fear, however, that the provisions in this trade bill will allow for hundreds of "legal" yet equally devastating Toshiba and Kongsbergs.

Mr. Chairman, the issue of technology transfer is one of the most important facing us today. The transfer involving Toshiba and Kongsberg has shown us just how devastating the sale of militarily sensitive technology can be. We don't need more of these occurrences, we need fewer.

I believe my bill, H.R. 2241, will send a strong signal. I do not relish pressing for this stringent action, Mr. Chairman. I know that there are those in both countries who deeply regret what has happened. I know that a ban will require U.S. firms to find new suppliers. But we cannot forget, Mr. Chairman, the young men and women serving around the world protecting the U.S. It is for them that we must impose strong sanctions on Toshiba and Kongsberg.

Mr. Chairman, I appreciate your time and attention. Thank you.

Chairman GIBBONS. Thank you, Mr. Hunter. We will go through the entire panel and then we will come back for questioning, if that is all right with you. Mr. Lukens.

**STATEMENT OF HON. DONALD E. "BUZ" LUKENS, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO**

Mr. LUKENS. Thank you, Mr. Chairman, members of the Committee.

I find myself in strong support of the effort by my colleagues, Mr. Hunter, Mr. Wilson, and Mr. Rowland. I would like to give the exact quote that Lenin made on communism when he said that the "Capitalists will furnish credits which will service for the support of the Communist Party in their countries, and by supplying us materials and technical equipment which we lack, we'll restore our military industry necessary for our future attacks against our suppliers."

In other words, they are working the preparation of our own suicide.

Let me begin by saying I believe the action of Toshiba and Kongsberg Vaapenfabrik in selling sensitive technology to the Soviet Union is nothing short of treason.

These two firms are traitors of Western unity. What is particularly disgusting and ironic about the whole episode is that the lives of American servicemen and women have been placed in jeopardy worldwide. These American lives have been placed in jeopardy while the corporations involved in this heinous act have made a profit of just \$17 million.

It is ironic that a profit of \$17 million, at a time when American men and women are protecting their lives to protect Japanese and European oil supplies in the Persian Gulf, the very people who betrayed us.

As a Member deeply concerned about this treasonous act, I believe we need to act in the national interest, immediately, to prepare the damage for this loss of technology. The Chairman made it very clear that the damage is deep, grievous and may be irreparable.

How do we begin to repair the damage of our national security by the sale of this submarine technology? DOD estimates it will cost a minimum of \$1 billion, just immediately, to develop advanced electronics to replace the immediate loss of our electronic knowledge.

As of this date I am aware of no new technology and find none that is on line, that will counter what the Soviet Union has been able to acquire by this duplicitous act. Therefore, we do not know what the cost will be, or how long it will take to develop the necessary technology to overcome this leak.

I do think it is not too much to ask those countries in whom the guilty parties reside to pay for the entire cost of finding the technology to counter this act. Any legislation which advances on this issue should set in place a mechanism whereby the ongoing cost of finding a counter-technology is paid for by the countries of the offending corporations, and determining how much they would pay for the damages.

Obviously, if the country of the offending corporation were to ignore us, and decide that they are not going to pay any damages, we would be forced to take even stiffer actions. Actions would be predicated on their refusal to repair the damage.

It is my belief that both Japan and Norway would want to take this good-faith act to begin to repair the extensive damage of this crime. While it is imperative that those who have sold out the free world are made to pay for the repair of the damages they have done, it is also important that they be punished in a manner which will send a message to every other corporation, every other country, who might be thinking of selling out the free world.

That those who sell secret technology to the Soviet Union will be subject to punitive damage. How can we best accomplish the punishment?

On July 1 I offered an amendment to the State and Commerce and Justice Appropriation Bill, which called on three departments to act jointly to bar all products and services of Toshiba and Kongsberg Vaapenfabrik from being imported into the United States.

This is similar to the bill, H.R. 2241, introduced by Congressman Hunter, and others, on April 30. My amendment also contained a clause which exempted contracts prior to July 1, 1987. I added this clause so that those American firms which unfortunately have already executed contracts with Toshiba prior to that date, and who are relying upon Toshiba for their parts, would not be penalized.

I believed then, as I believe now, that our goal should be to inflict such a severe penalty on Toshiba and Kongsberg, while holding to an absolute minimum the collateral damage to American firms. It is my belief that we can accomplish this with a minimum of harm to American firms for already existing contracts.

In recent days I have heard from a variety of firms and interested individuals concerned about the possible ban on Toshiba and services. What I have learned is that Toshiba supplies a variety of components and component parts to American companies who use these parts in their own products, which they resell under their own names.

An immediate ban on Toshiba parts would threaten these businesses and the jobs of many Americans. A solution to this thorny problem, however, is available, and could be arrived at while still providing us with the tools to punish the offending corporations.

First, we should enact an immediate ban on the import of products and services of Toshiba and Kongsberg, which carry their names. Secondly, we should provide an exemption on contracts executed prior to May 1, 1987.

This would ensure that American firms who are awaiting delivery of products are not unduly harmed.

It would also allow companies who buy components or component parts to continue to purchase these parts until an alternative supplier can be found. Finally, I would urge a total ban on all products or services of the offending corporations become effective May 1, 1989, sooner, as far as I am concerned.

This would give American firms the lead-time to line up alternative suppliers providing a just punishment for the offending firms.

It is my belief, that if we do not give a real warning, a real signal to the rest of the world, and any companies who have been think-

ing of dealing, in terms of the American national security, with the Soviet Union, that it will happen again. This is the time to take action so strong, and so firm, that we serve notice to those people who might even be thinking of dealing with our national security.

Thank you, Mr. Chairman, and Members of the Committee.

[The prepared statement follows:]

TESTIMONY
OF THE
HONORABLE DONALD E. LUKENS

Mr. Chairman, members of the Subcommittee on Trade, I commend you for holding these timely hearings and for providing me with an opportunity to testify regarding a ban on Toshiba and Kongsberg Vappenfabrik(KV) products.

Let me begin by saying that I believe the action of Toshiba and Kongsberg Vappenfabrik(KV) in selling sensitive technology to the Soviet Union is nothing short of treason. These two firms are traitors of western unity.

What is particularly disgusting about this whole episode is that the lives of American service men and women have been placed in jeopardy all over the world. These American lives have been placed in jeopardy while the corporations involved in this heinous act have made a profit of just \$17 million. A profit of just \$17 million at a time when American men and women are risking their lives to protect Japanese and Norwegian oil supplies in the Persian Gulf.

As a member of Congress deeply concerned about this treasonous act I believe that we need to act in the national interest to repair the damage from the loss of this technology and to make it clear that just as those who commit treason against the United States receive capital punishment, those corporations who would sell out the United States receive the ultimate penalty and be closed out of the American market.

How do we begin to repair the damage to our national security from this sale of submarine technology. The Department of Defense estimates that it will cost at least \$1 billion to develop the advanced electronics to undo the damage. Former Assistant Secretary of Defense, Richard Perle, wrote in the June 22, 1987 issue of Defense News that -- "If a way can be found to repair the damage -- (the cost) will be billions." As of this date, I am aware of no new technology that is on line or that will counter what the Soviet Union has been able to acquire. Therefore, we do not know what the cost will be or how long it will take to develop the necessary technology to overcome this leak. I do think it is not much to ask that those countries in whom the guilty parties reside to pay for the entire cost of finding the technology to counter this act. Any legislation which advances on this issue should set in place a mechanism whereby the ongoing cost of finding a counter technology is paid for by the countries of the offending corporations. This would leave it up to the countries of the offending corporations to determine how they would pay for the damages. Obviously, if the countries of the offending corporations were to ignore us and decide they were not going to pay the damages, we would be forced to take even stiffer actions, actions that would be predicated on their refusal to repair the damage. It is my belief that both Japan and Norway would want to take this good faith effort to begin to repair the damage of this heinous crime.

While it is imperative that those who have sold out the free world are made to pay for the repair of the damages they have done, it is important that they also be punished in a manner which will send a message to other corporations who might be thinking of selling out the free world, that those who sell secret technology to the Soviet Union will be subject to punitive damages.

How can we best accomplish the punishment of a corporation which has sold out our national interest and send a message to others that the cost is too high. On July 1st, I offered an amendment to the State, Commerce and Justice Appropriations Bill which called on these three departments to act jointly to bar all products and services of Toshiba and Kongsberg Vappenfabrik from being imported into the United States. This was similar to the bill, H.R. 2241, which was introduced by Congressman Duncan Hunter and others on April 30th.

My amendment also contained a clause which exempted contracts executed prior to July 1, 1987. I added this clause so that those American firms which had executed contracts with Toshiba prior to that date, and who were reliant upon Toshiba would not be penalized. I believed then, as I believe now, that our goal should be to inflict a severe penalty on Toshiba and Kongsberg Vappenfabrik while holding to an absolute minimum the collateral damage done to American firms. It is my belief that we can accomplish this with a minimum of harm to American firms.

In recent days I have heard from a variety of firms concerned about the possible ban on imports of all Toshiba products or services. What I have learned is that Toshiba supplies a variety of components and component parts to American companies who use these parts in their own products which they resell under their own names. An immediate ban on all Toshiba parts would threaten these businesses and the jobs of many Americans. A solution to this thorny problem is available and can be arrived at while still providing us with the tools to punish the offending corporations. First, we should enact an immediate ban on the import of products or services of the Toshiba Corporation and Kongsberg Vappenfabrik which carry the name of the offending parties. Second, we should provide an exemption on contracts executed prior to May 1, 1987. This would ensure that American firms who are awaiting delivery on products are not unduly harmed. It would also allow companies who buy components or component parts to continue to purchase these parts until an alternative supplier can be found. Finally, I would urge that a total ban on all products or services of the offending corporations become effective May 1, 1989. This would give American firms the lead time to line up alternative suppliers while providing a just punishment for the offending firms.

It is my belief that a strong and measured response, similar to legislation which has been introduced, and which incorporates the changes I recommend, will provide the Congress with the tools to repair the damage inflicted on our national security while sending a message to others who might think about selling out the free world, that the cost is simply too high.

Thank you for providing me with the opportunity to address you on this critical issue.

Chairman GIBBONS. Thank you, Mr. Lukens.
Mr. Rowland.

**STATEMENT OF HON. JOHN G. ROWLAND, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF CONNECTICUT**

Mr. ROWLAND. Thank you, Mr. Chairman.

First, I would like to thank you and the Members of the Committee for having this hearing today in the circumstances which surround the Toshiba/Kongsberg corporate espionage cases.

The record you are building through this hearing will be of immense importance, not only to us in the Congress, but certainly to the Administration, should we all decide to pursue retaliatory or punitive actions against these two traitor companies.

This story is so bizarre, it seems almost unbelievable. Tragically, however, as the story continues to unfold, we know about the serious damage that has been done.

As a matter of fact, Mr. Hunter has adequately pointed out some of the damage, and I would like to further point out that the equipment that the Soviets were given will enable them to quiet their propellers on their submarines, and decrease our ability to track and detect their subs.

As a matter of fact our experts estimate that this factor of reduction is approximately twentyfold. Originally we were told that there was just one sale of four milling machines involved. Now it turns out that a second sale of four additional machines also occurred.

You can add to this the fact that Kongsberg is a state-owned corporation. There have been allegations linking Japan's Ministry of International Trade and Industry to these illegal sales.

There are press reports that now allege additional technology diversions by Kongsberg. If all of this is not bad enough, Mr. Chairman, we must also realize that Toshiba has been double-dealing through these years. While they have been supplying the Soviet Union they have also been supplying the United States with equipment so that we can detect Soviet subs.

We have talked about three courses of action before you today, three pieces of legislation. I would just like to take a few moments and talk about my proposal, H.R. 2731, which would simply prohibit the United States Government from procuring any Toshiba or Kongsberg products.

In essence, that means that all the various departments and agencies would need to look beyond Toshiba and Kongsberg when it comes to procuring computers, videocassette recorders, or whatever product is involved.

Quite frankly, I do not believe that any U.S. tax dollars should go to either of these firms. If we decide to retaliate, the question obviously becomes how do we do it?

I would submit that while this is a clear-cut case of corporate espionage warranting severe punitive actions by the United States, it is not as simple as it may sound.

For example, it is my understanding that Kongsberg is near bankruptcy, and that the Norwegian Government is splitting the

firm up. In essence, it may be that if Kongsberg goes under and thus ceases to exist, there is no entity to retaliate against.

As far as Toshiba is concerned, a ban by the United States of their products would have the possible effect of precluding Japan's participation in SDI.

This is obviously a policy decision of great significance, and as such, we should fully debate all of these options. As a Member of the Armed Services Committee, and a strong supporter of SDI, I will tell you, I have absolutely no problem whatsoever with banning Toshiba and other Japanese firms from receiving SDI contracts.

Given their track record, Mr. Chairman, I am not inclined to share any cutting edge of SDI technology with them. I would also suggest that we need to assure, that whatever action we take against Toshiba does not boomerang against us or U.S. corporations which are now dependent on Toshiba computer chips, and other products. Along this line, it might make sense to grant a grace period, or a transition period, to critical U.S. industries now using Toshiba products, but firmly require that at some point in time U.S. corporations must move to other sources.

It may be that the types of bans that have been proposed by Messrs. Hunter and Wilson, or myself, would not be workable. If that is the case, then at a minimum, I would suggest that we hit Toshiba where it really hurts, and slap very deep duty surcharges on their most lucrative products.

What scares me most, Mr. Chairman, is what happens if we do nothing. It almost sends a message to foreign corporations and nations that crime does pay in the United States. I must say, that if we let Toshiba get away with this scam untouched, it is all but inviting similar activity to occur in the future.

Mr. Chairman, I would like to conclude with just two observations, and I know that these observations have been brought up by my colleagues here on the panel.

It disturbs us all, greatly, that Toshiba and Kongsberg would be willing to risk worldwide retaliation for just \$17 million. Why would they risk this confrontation? Why go through what we now see as a very conscious deliberate effort to bring products to the Soviet Union?

What further concerns me, and should concern all of us, as Americans, is the question of whether we are just hitting the "tip of the iceberg." Has Kongsberg, has Toshiba, done worse? Have there been other instances of damage against our nation? Have they compromised our security in other ways?

And Mr. Chairman, are there other countries, are there other companies, that have taken similar actions against our great nation?

Mr. Chairman, these are questions that are not going to go away, and as we proceed to discuss the retaliatory action, the deliberate actions that we hope to take in the Congress and within the Administration, we need to keep focus on the fact that these questions do exist, and I hope we will all address ourselves to them.

Again, thank you for the opportunity to testify. I look forward to answering any questions you might have.

Chairman GIBBONS. Thank you.

Mr. Bonker is here now, so before we go to questioning, why don't we go to Mr. Bonker's statement.

Mr. Bonker, we have agreed that all statements made today will be placed in the record, and we ask you to summarize. And while we are trying to limit members to 5 minutes, we have been very generous with the 5-minute rule.

So just go right ahead.

**STATEMENT OF HON. DON BONKER, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF WASHINGTON**

Mr. BONKER. Thank you, Mr. Chairman.

I understand the rules and I shall be brief.

There's no question that the subject that has been the reason for your meeting this morning represents an egregious violation of western security, and there's no way that Congress ought to sit idly by and not respond in some fashion.

But I think the question facing Congress is what action should be taken to address the situation. If the goal is punitive, unilateral action approaches the pending House legislation and Senator Garn's amendment I think are in order. It may be appropriate action but it also may be premature given the fact that both governments are pursuing investigations and possible prosecution of those who are involved.

If the goal is to prevent recurrences of such violation in the future, a different response may be called for, and I'm talking primarily about strengthening the multilateral system. In fact, I am considering legislation that would in effect direct the Secretary of State to pursue within COCOM a stronger enforcement program and stiffer penalties and longer statutes of limitation among those countries who are participating members. If violations are not met with punishment, under the laws of Japan and Norway, within a reasonable time frame, I think the United States is left with little choice in taking punitive action such as banning imports.

But I want to stress, Mr. Chairman, that I feel that precipitous action by the Congress, because we are so angered by what has transpired here, may not really represent the best policy in the long run. I say this because we could conceivably see unilateral action against the companies involved, that is denying them access to our markets, but not having punishment of those who violated the export control laws in those respective nations in the spirit of COCOM to which all of us are committed.

That is why I believe that our efforts ought to be directed in such a way that we can strengthen the multilateral enforcement program and to make those penalties so stiff that it would serve as a constant reminder that people cannot violate these export control laws in the future without receiving some punishment.

Now, Mr. Chairman, the other point I want to make in stressing the need for multilateral approach is this. There was no U.S. person or goods or technology involved in this diversion. Indeed, we had vivid demonstration that United States security is dependent on how our allies also cooperate in this export control program. And it's a painful reminder that the United States is no longer technologically dominant when it comes to technology. Indeed,

technology has become a fairly advanced form of technology throughout the world and is widely shared by producer nations especially within the COCOM framework. And it illustrates, I think, the futility of attempting to deal with this question unilaterally, and that's why again I stress that we look more towards a multilateral solution by strengthening enforcement procedures among participating countries.

The last point I want to make concerns the pending legislation known in the Senate as the Trade and Competitiveness bill. We have another title for it here. But it's a trade legislation.

As you know, we have placed into that legislation a number of meaningful reforms that would ease the restrictions on the export of U.S. technology. There is a viewpoint shared by the National Academy of Sciences, and many within the Administration here in the Congress that our export control procedures are excessive, unnecessarily restrictive, denying U.S. exporters potential markets abroad. And that's one reason why we have witnessed a rather surprising turnaround in our trade position with respect to technology from a trade surplus of \$26 billion in 1981 to a trade deficit last year of \$2 billion.

The last thing that we should do in response to the Toshiba/Kongsberg situation is to place more restrictions on U.S. exports. I say that because, in this instance, U.S. companies, U.S. control procedures were not at all involved in this diversion of critical technology. But there are some in the Congress who will want to remove the reforms that are in the trade bill and place more restrictive controls on U.S. exports. And I don't think that we are going to achieve our ultimate goal of multilateral enforcement simply by placing even greater restrictions on U.S. exports.

It's terribly important that, number one, that we proceed with the reforms that are currently in the trade bill that will be the subject of a Senate-House conference next month, that we not overreact to the situation by placing greater restrictions upon U.S. exports.

Number two, we proceed to move within COCOM to make sure that all participating nations have stiff penalties and a comprehensive enforcement program to ensure that this will not occur again among those nations who are supposedly adhering to our control policy.

And, number three, that if the countries involved do not proceed expeditiously to prosecute those involved—I'm not talking only about the companies but about the personnel, the company officers who lied on the forms, and ensure that that prosecution takes place. If that doesn't occur, then I think it's appropriate for this Government to move in a way to impose unilateral restrictions on products from those countries.

But I don't think it serves any purpose to wrap up the security issue in the trade debate and to make it part of our efforts to put down the Japanese because of their sizable trade surplus against the United States. Indeed, I would like to see this issue removed from the trade bill and dealt with in a way that represents our security concerns and not proceed as another effort to reduce the Japanese imports and then cloak it in our concerns about violation of export control policy.

Mr. Chairman, our committee has been conducting hearings, and we hope to come forth with legislation shortly that will attempt to deal with this issue on a broader basis within COCOM.

Chairman GIBBONS. We're here today because Mr. Wilson of Texas approached me on the floor and said he had filed a trade bill and wanted a hearing on it. I asked him what the subject matter was. He said it was the Toshiba incident. And I said, Mr. Wilson, as soon as we can have a hearing on that subject, we will. That is the purpose of this hearing today.

I can see from what we have gotten into that it's going to take more than one hearing, and that it is a very serious matter.

I also know that the Committee has been contacted by many involved, not in the incident, but by many involved in the trade problems that flow from all of this. I would just say to my American friends who are involved in the trade problems that we're going to have to hear from you publicly. It's nice to hear from you privately, but we're going to have to hear from you publicly about the problems you perceive. We intend to do that as soon as the agenda of the Ways and Means Committee will allow us to do it. We are going to have to call some other witnesses besides those who have come forward today.

I want to say for myself that this is the first time in my legislative experience that I've dealt with a matter such as this sort. My responses may be a little clumsy and a little inept, but I'm determined to get to the bottom of it and to try to work out the best solution possible to the problem.

Mr. Hunter, let me ask you the first question because you brought up the chronology of this.

When did this begin?

Mr. HUNTER. The first contract, Mr. Chairman, was signed between the KGB, or the Soviet Union after KGB contacts, and Toshiba and Kongsberg in 1981.

The equipment was shipped——

Chairman GIBBONS. Do we know when in 1981?

Mr. HUNTER. No, sir, I don't have the precise date. But it is available.

Chairman GIBBONS. Are those dates available?

Mr. HUNTER. Those dates are available.

Chairman GIBBONS. Would you get it and supply it to the record and to the members here so we can get the exact date in our mind?

Mr. HUNTER. Absolutely.

Chairman GIBBONS. All right.

[The following was subsequently received:]

CHRONOLOGY OF EVENTS IN THE TOSHIBA/KONGSBERG PROPELLER MILLING TECHNOLOGY
DIVERSION CASE

I. 1980.

- In 1980, the Soviet foreign trade organization, Tekmashimport, contacted the Japanese trading firm, Wako Koeki. Tekmashimport wanted to purchase Western automated propeller manufacturing equipment for one of its clients.
- Wako Koeki surveyed Japanese machine tool manufacturers to determine which produced such specialty equipment and would supply it to the Soviets.
- Toshiba Machine, a majority owned subsidiary of the Toshiba Electric Corporation, agreed to provide the equipment and negotiations began.
- Toshiba insisted that its standard export broker, C. Itoh, be used to avoid raising the suspicions of Japanese licensing authorities.
- To further disguise the true nature of the sale, the Japanese firms enlisted the Norwegian firm Kongsberg Trade, a division of Kongsberg Vaapenfabrikk. Kongsberg Trade agreed to provide the computer numerical controllers, the brains that run the machines, and the propeller design and production software.

II. 1981.

- In 1981, five contracts were negotiated to effect the sale.
- On April 24, 1981 two contracts were signed in Moscow. The first between Tekmashimport and C. Itoh, the second between Tekmashimport and Kongsberg Trade.
- C. Itoh, acting as the agent for Toshiba Machine, agreed to supply four, state-of-the-art, propeller milling machines--Toshiba Machine's model MBP-110--and to provide service and spare parts for five years from the date of installation.
- The MBP-110 is capable of precision milling propellers up to 11 meters in diameter and is a COCOM restricted commodity.

- Kongsberg Trade agreed to supply the CAD/CAM system including the computer, spare parts for the NC-2000 computer numerical controllers, and service for five years from the date of installation.
- In a third contract between Kongsberg Trade and Toshiba Machine, Kongsberg agreed to supply the numerical controllers to Toshiba Machine for installation in the MBP-110's before shipment by C. Itoh to the Soviet Union.
- The fourth and fifth contracts committed Kongsberg Trade and Toshiba Machine to pay Wako Koeki a finders fee for orchestrating the arrangements.
- The companies involved submitted a false end user certificate stating the equipment was destined for a civilian facility located in Leningrad along with the degraded technical specification for the milling machines and numerical controllers.

III. 1983 and 1984.

- The four sophisticated marine propeller milling machines and propeller CAD/CAM software were diverted to a Soviet Navy propeller production facility in Leningrad--the Baltic Shipyard.
- The equipment was delivered and installed in the shipyard starting in 1983 and completed in early 1984. The companies serviced and updated the machines and software as late as June 1984.
- The software was modified in 1984 to enhance the capabilities of the machines and reduce the time it takes to mill a propeller.

IV. 1986.

- This matter came to the attention of the United States Government in 1986.

V. Export Violations.

- The sale of this equipment was a violation of COCOM restrictions on the sale of machine tools and computer numerical controllers to proscribed destinations.

- The machines exceeded the COCOM limits on the number of simultaneous axes--9 vs 3; the number of working spindles--2 vs 1; the maximum allowable machine size; and the spindle cutting power.
- The computer numerical controllers exceeded the limits on number of simultaneous axes--9 vs 2.
- The software was modified by Kongsberg to generate output matching the specifications of the Toshiba machines. This software was specifically developed for automated marine propeller manufacturing. However, software was not explicitly controlled under the COCOM list in force at the time of the sale.

VI. Impact

- This sale has allowed the Soviet Union to acquire the ability to produce quieter propellers for its submarine fleet reliably, repeatedly, and in large numbers.
- These machines and the software have provided the three essential ingredients for the manufacture of quieted propellers:
 - 1) accuracy--0.01mm.
 - 2) flexibility--5 axis machining simultaneously on two different blades.
 - 3) high degree of automation.
- These characteristics allow the machines to produce propellers with numerous, skewed, identical blades that are precisely contoured to reduce low frequency blade rate noise and high frequency cavitation noise. In addition, the accuracy of the machines and the manufacturing software enable the Soviets to produce these complex propellers with low rejection rates.

Mr. HUNTER. No. 2—

Chairman GIBBONS. And if you can answer this without disclosing any of our security—when did we first learn of it?

Mr. HUNTER. I don't know if I can answer that. I have a date that has been given to me by some intelligence sources, Mr. Chairman. I don't know if I can disclose that. It may be open, but I don't know if I can disclose it.

Chairman GIBBONS. Yes, sir, Mr. Frenzel.

Mr. FRENZEL. To follow that chronology, the staff memo under the date of July 10, 1987, gives some of these dates that Mr. Hunter has suggested. The contract dates are easy to determine. But our staff paper at least says the matter came to the attention of the United States Government in 1986 without further specificity.

Chairman GIBBONS. All right. Well, that's close enough.

Mr. HUNTER. Mr. Chairman, there is a classified report on this that is in the Armed Services Committee right now that all members can go down and take a look at. And it has the dates, and they are somewhat different from the date the staff pointed out.

Chairman GIBBONS. All right. The propeller noise problem which apparently this equipment is designed to conquer is not an uncommon problem in ships.

How much time do you think that the Russians gained by having access to this technology when they did, as compared to when they apparently would have solved it anyway?

Mr. HUNTER. I think it's easier for me to explain in distances rather than time, Mr. Chairman.

Chairman GIBBONS. All right.

Mr. HUNTER. The reason we can be outnumbered three to one, which we are, and still be superior is because our submarines can hear their submarines coming a long time before their submarines can hear ours. I can say this without getting into classified information, that they have more than cut in half the disadvantage that we had in terms of distance.

Now, I don't know how you can quantify that in time. But I think I would say this, Mr. Chairman, the distance, we were 10 years ahead of the Soviets roughly in submarine technology. In my estimation, they have more than cut that time lead in half also.

Chairman GIBBONS. Have they deployed any of these new quiet propellers?

Mr. HUNTER. Yes, Mr. Chairman. And there is a number that is available, a classified number that's available in the Armed Services Committee, that I talked to the staff yesterday, and I should not talk about now.

But they have deployed them. And I think, as a matter of common sense, they've the ability to retrofit the submarines that they have. In other words, this has provided the worst of situations for us because we said even if they have us outnumbered three to one, and they're building at the rate of maybe six, seven boats a year, the new technology that they're stealing from the West and building on their own is going to be deployed and manifested in the new submarines.

We never thought that they would get an advantage like this and retrofit it into the older boats that they have. Now, they have some problems, some noise problems from other sources with their

older boats. Also there's other things besides propellers that make your boats noisy.

But this capability of retrofitting damages our equation of being outnumbered three to one and being able to live with it. That's why I think, over the next 5 to 10 years, I'm going to recommend that we increase our building program to a point toward building where we have an attack submarine force of about 130 rather than the current planned 100.

Chairman GIBBONS. I guess the point I was trying to make is that the Russians are pretty intelligent people. They've done good mechanical work for a long period of time.

How much lead time in years did they close by this kind of propeller?

Mr. HUNTER. I think, Mr. Chairman, in my own personal opinion, is they closed our lead from about 10 years to about 5 years. And I can say this. The new submarines that they're building now that have this new propeller milled with the Toshiba machinery is roughly as good as the latest class that we have in the water right now, that's the 688 class. It won't be as good as the SSN-21, which we won't field until about 1992. But it's roughly as good as the early models of the 688 class.

In other words, the qualitative advantage that we had has absolutely fallen off the table. And that's what moved the Seapower Subcommittee and the Research and Development Subcommittee in Armed Services to have the hearings, and say what happened? And that's when we received this information, we began to investigate it, and this situation was brought to light.

Chairman GIBBONS. So you really learned of this indirectly, not through the request for additional submarines and not to any direct intelligence discussion with the Committee?

Mr. HUNTER. Well, he had general oversight hearings, and we said wait a minute. They were showing us roughly the qualitative gap in submarines, and it was narrowing to the point where it was almost non-existent in terms of the new boats. And we said what's happening to our advantage. And they said we'll have to tell you in classified session. They did. This was one of the pieces of information that was brought out of this session.

So the Committee realized that suddenly our advantage was falling off the table. And we held hearings to find out what had happened. And that's when this report on the transfer of technology emerged.

Chairman GIBBONS. Now we get into the domestic side of the problem, as Toshiba has over the years exported a great many components to the United States. They are components of many finished products made in this country.

They also have sold many products in this country which will need servicing. They are in the hands of innocent purchasers, both civilian and governmental.

As I think the thrust of both of the bills before us here would cut off the importation of all Toshiba-made material, did you or any of your colleagues discuss what might be the appropriate remedy for, say, innocent American purchasers who have Toshiba machines that need servicing or maintenance during this embargo time?

Mr. HUNTER. Mr. Chairman, I would ask my colleagues to comment for themselves, but I understood that they had a problem with spare parts. We have purchasers, and I figure that the lobbyists in Washington would soon alert the committees to those problems and, in fact, in the Garn bill that passed on the Senate side, they have spare part provisions, they have provisions for contracts that have already been executed, and other provisions that will make it more comfortable for American users and purchasers to ship to other products.

But my position in writing my bill was to do this: to place the interest of the young Americans in uniform whose lives have been placed in jeopardy by this technology transfer in a paramount position to the convenience of consumers and industry in the United States.

Chairman GIBBONS. Well, I agree with you on that.

But how is embargoing spare parts for replacements of Toshiba machines in this country going to improve the security of a leak that has already occurred?

Mr. HUNTER. Well, again, Mr. Chairman, my bill is a rather harsh bill in some people's estimate. I think it's a fairly moderate bill in my own estimate. But it goes to deterrents.

Very simply, if a criminal murders somebody, there are great debates in this country as to whether or not giving the death penalty, or even giving a life sentence to that criminal is going to deter him. And the line of reasoning behind those who say it won't deter him from getting out and doing the same thing, or deter other people, if he's given the death penalty is because criminals don't think logically. In other words, if a person wants to kill people, they are going to continue to do it.

Businessmen, on the other hand, do think logically. This was a dollars and cents decision. If Toshiba is economically damaged by this technology transferred by American reaction, then the next company that is offered by the KGB to make a few million dollars on a sale of Western technology is going to say wait a minute. If I'm found out, I'm going to be hit where it hurts, and that's in the pocketbook. Businessmen think logically.

So my bill goes to deterrence.

Chairman GIBBONS. I'm not trying to defend Toshiba; I would like to hang them if I could. But we have a duty here to protect the innocent American purchaser. What do we do to make sure that while we are getting the culprit, we don't also shoot all the innocent bystanders?

Mr. HUNTER. OK. I could go along, Mr. Chairman, with the spare parts provision, for example, that would allow our people who have Toshiba equipment to receive spare parts. I could live with that.

I think the time is the important thing from my point of view. I think we need a life sentence. And I would be willing to go along with executed contracts can be carried out so the companies who have contracts in hand aren't left holding the bag.

But I know you're going to hear some lobbyists who want to extend these considerations and conveniences to the nth degree, and I wouldn't agree with that. But I could live with some of the provisions in the Garn bill. And I think my colleagues may have some answers to that too.

Chairman GIBBONS. Well, certainly. I started off with you but I don't mean to exclude any of them.

Would any of them like to respond now? Mr. Bonker?

Mr. BONKER. Mr. Chairman, you've asked about a remedy for dealing with the situation, and one is already in place which I think has been overlooked.

In Section 121 and 126 of Title 1 of the Export Administration Act, and I believe that Congress in 1985, when it placed this provision in the Act, and I believe this Committee signed off on it, anticipated that problems like this would occur. And here is what it provides.

That any person or company who violates any regulation issued under a multilateral agreement, which includes COCOM, to control exports for national security purposes may be subject to such controls on the importing of goods or technologies into the United States as the President may prescribe. In other words, the President now has authority to restrict imports whenever another company, a foreign company, violates a multilateral agreement like COCOM.

But there are three steps that are outlined. Step No. 1, there must first be negotiations between the United States and the country in which that violating company is located to see that the violations have been dealt with by that country, and efforts made to restore compliance within the regulations.

Secondly, that the President, if those negotiations fail, must notify that government that we are contemplating import restrictions because of the violation.

And then, thirdly, the United States must seek within COCOM a majority of member nations in concurrence of imposing those restrictions.

Now, the authority is there, and it might be a fair question from you to the Administration witnesses on what they attempted to do about this matter pursuant to Sections 121 and 126 of the Export Administration Act.

Now, I know that seeking a majority vote within COCOM may not be easy. And that's why, if anything, we ought to contemplate changes within the Export Administration Act provisions that apply here, to see that we could, after negotiations and after contacting that country should those negotiations fail, that we are contemplating import restrictions, that we not necessarily seek a majority vote of COCOM member nations.

So I'm not sure that we should strike out with new import restrictions, especially if they're wrapped up in the trade issue when there's existing authority within our laws to deal with the problem.

Chairman GIBBONS. Mr. Lukens?

Mr. LUKENS. Yes. Thank you, Mr. Chairman.

At the risk of sounding like I make everyone else, sound moderate, let me just offer a couple of observations from my standpoint.

I greatly admire what Mr. Bonker has done with trade over the last several years. I've watched him from a distance, and it's a pleasure to work with him in the Congress.

I am concerned, however, that the bureaucracy of COCOM, by the time that we got this issue or any others that comes up in the

future through it that the Soviets could build a whole new submarine fleet.

I firmly believe if the United States does not take firm and punitive action on this, it will recur.

Now, I'm not an expert on the Far East. I lived there four and a half years, speak, read and write Japanese, and I worked in the Intelligence Service there for that length of time. And their businesses are different from our businesses. They have a guiding light under MITI, which I was there when they founded it, and watched it grow into the giant it is today, that it uses totally different approaches to export business, different than when the United States approaches it. And I believe if we don't go for punitive damage, if we don't go for damage so high, make the threshold high enough that they never again want to repeat it, any country, any company, that it will occur again.

And I don't know how this body or any body protecting American security and talking about protecting our fighting men and women overseas, protecting Japanese oil lanes, source of oil, as well as source of European oil, how we explain to people in the future that we let it happen again. And it will happen again in my honest political opinion, in my best judgment, unless we make an issue of, an example of these two companies.

And it doesn't seem fair to me that the American taxpayer once again will pay as much as \$30 billion that Mr. Duncan suggests, or even the minimum of one billion, the minimum that's been suggested.

I think those companies residing in those countries whose security we're helping safeguard with our men and women, our dollars, should pay a price for what they've allowed to happen.

No one, Mr. Chairman, in my opinion, is going to come to the rescue of the United States should we become second class. And I think this is the time to strike as far as I'm concerned.

Mr. ROWLAND. Mr. Chairman, I'd merely like to add that I, too, believe that we must take some positive action, aggressive action on our part through some type of legislation while, at the same time, I think we have to recognize that there's a balance. We've got to ask ourselves whether we're going to accomplish the goals that we want in punishing Toshiba, deterring other nations, deterring other companies, deterring other companies while, at the same time, making sure that we don't severely hurt ourselves.

Now, I think that the difficulty becomes what is severely hurting ourselves and what is a small sacrifice? We have to decide whether we're willing to make the small sacrifice of not buying a Toshiba product versus the very severe problem that some companies may face in needing a Toshiba product to produce perhaps an item, a product that's involved in our own national security.

So that balancing act is important. And I think all of us, although we have some very strong legislation before you, all of us are willing to work within that balancing act. But I think the key is asking, making sure that we provide the deterrent, provide the punishment without giving the candy store away, and without being too, too insensitive to some of the sacrifices that some other people might have to make within our own nation.

Chairman GIBBONS. Thank you.

Mr. Schulze.

Mr. SCHULZE. Thank you, Mr. Chairman.

I would like to thank the panel for their testimony. Mr. Chairman, I was in conversation with DOD to get some background information on this, and they offered a classified briefing. I refused because I didn't want to be restricted in the questions which I ask. But, perhaps at some point, it would be well for us to consider that course.

Chairman GIBBONS. Well, I would but, you know, I've been to a lot of these classified briefings, and you usually read in the current news media things that go way beyond what they tell you in those classified briefings. And then, like you say, your hands are tied, and you hate to say hello to your wife after some of those briefings. [Laughter.]

If we find it appropriate and necessary, we'll have the briefing. But I just want to point out there's a heck of a liability in having one. Because if they learn that the next day is Tuesday and they told you so in a briefing, then you build a secret.

Mr. SCHULZE. Well, we can stand that risk.

Mr. Hunter, I take it that, in your opinion, this was not a casual erroneous deal. This was not a case of mistaken identity or just happening to sell to somebody who rerouted this product. Toshiba apparently knew what they were doing and to whom they were selling and what effect it would have. Is that correct?

Mr. HUNTER. Mr. Schulze, you've hit the nail on the head, and I think this is a point that Charlie Wilson has made regularly.

This was a corporate decision. There were no, what he calls, rogue elements involved here, single executives who ran off on their own to slip something under the table and receive a sack of cash. This was a corporate decision in which the KGB actually traveled to Japan, met with members, according to the memorandum that was seized——

Mr. SCHULZE. Mr. Hunter, that was to be my next question. Let's hone in on that for a second.

You said Toshiba sold this technology after meeting with the KGB. Now could you be a little more explicit?

Mr. HUNTER. There is again a classified report that's available which tells you where and when they met with them. But they actually traveled to Japan, and they tested the machinery, looked it over with executive——

Mr. SCHULZE. KGB officers or operatives?

Mr. HUNTER. Yes.

Mr. SCHULZE. And did they have travel permits to enter Japan under any guise or as KGB members?

Mr. HUNTER. Well, as I understand, they didn't try to hide their identities when they traveled to Japan. The meetings had, I can tell you, had a surreptitious nature about them, and the details of the meetings are available to you.

But they came over, they tested the machinery with the KGB——

Mr. SCHULZE. The KGB came to Toshiba.

Mr. HUNTER. Yes.

Mr. SCHULZE. Did they come to a plant or to an export office.

Mr. HUNTER. To their plant.

Mr. SCHULZE. Was this a plant where this product is manufactured.

Mr. HUNTER. Yes. And the Kongsberg people had arrived at that time with their numerical controllers. So the KGB was able to check out the machinery with the controllers attached.

Mr. SCHULZE. So you had Kongsberg, Toshiba, and the KGB in an open meeting or a surreptitious meeting?

Mr. HUNTER. It was a private meeting between them.

Mr. SCHULZE. This was a private meeting at Toshiba.

Mr. HUNTER. Yes.

Mr. SCHULZE. Did it occur during normal working hours?

Mr. HUNTER. That's part of the information.

Mr. SCHULZE. In other words, you're telling me the incident is classified?

Mr. HUNTER. Yes.

Mr. SCHULZE. OK. So, in your opinion, this was not at all a casual occurrence.

Mr. HUNTER. Not at all casual. And also they entered into a 5-year service contract. And the Toshiba and Kongsberg teams went to the shipyard. After they put the phony destination on the equipment, they went to the Baltic Shipyard and installed the machinery for them and serviced it, entered a 5-year service contract.

Mr. SCHULZE. I'm informed that Wako Trading, with whom Toshiba did part of this transaction is also under Defense Department investigation at this time, as well as another company called C. Itoh.

Do you have any knowledge of either of those companies, or whether they are under investigation by the Department of Defense and what their involvement might have been?

Mr. HUNTER. Yes. Both the companies are under investigation. I know that C. Itoh entered a contract. Toshiba wanted C. Itoh to be involved as a trading company, and they, at one time, entered a contract as participants in this deal. And as I recall, a representative from C. Itoh entered a contract, I believe in Moscow. And I think that C. Itoh was the first organization that the Soviets approached for the deal. In other words, they said, yes, we have a company that can do it, that company is Toshiba.

Mr. SCHULZE. Mr. Rowland, in your written testimony, you state that evidence has been uncovered linking Japan's Ministry of International Trade and Industry, or MITI, to these sales.

Can you be a little more specific? I think that if MITI were involved in this, that's a very, very serious charge. In effect, it ties an arm of the Japanese Government in this sale.

So can you give me any more information regarding your statement that MITI was linked to these illegal sales?

Mr. ROWLAND. I'd be glad to, Mr. Schulze. Thank you.

First, let me say it's very difficult for us to get intimately involved in the investigation, and one of the things that we've been trying to do through legislation passed in the House, was at least get a report from Japan about what action has taken place.

I am going to ask unanimous consent that there's an article that appeared Friday, June 5th, in the Washington Times, that's titled "Japanese Officials Suspected In Sale of Technology to the Soviets."

I would ask that this be put in the record. And I'd like to just read a few paragraphs from that just——

Chairman GIBBONS. Without objection, it will be put in the record.

[The article follows:]

Nation

Japanese officials suspected in sale of technology to Soviets

By James M. Dorsey
THE WASHINGTON TIMES

Japan's Metropolitan Police Department is investigating several government officials suspected of having helped the Japanese electronics giant Toshiba divert sensitive Western technology to the Soviet Union.

The officials of Japan's International Trade and Industry Ministry came under suspicion when police last week seized company memos indicating that they had helped Toshiba Machine Co. skirt restrictions on exports to communist countries, Reagan administration, Japanese and congressional sources said.

A decision on whether to indict the MITI officials will be made before the end of June, when the statute of limitations comes into effect, the sources said.

The officials are said to have been wine and dined by Toshiba in 1982

when the company was negotiating with the ministry for a license to export four room-size, multi-axis milling machines to the Soviet Union. Soviet technicians joined MITI officials and Toshiba executives for dinner, the sources said.

The Soviet Union, according to U.S. officials, is using the machines to produce quiet propellers for submarines that make them harder to track. A state-owned Norwegian company, Kongsberg, has also been implicated in the diversion.

Last month, police in Japan arrested two Toshiba officials and indicted seven others on charges of having been involved in the diversion.

Sources said the documents seized by the Japanese police indicate that MITI officials had recommended specific steps to sidestep Japan's export controls.

MITI, the sources said, issued a certificate to Toshiba stating incor-

rectly that the milling machines were not covered by the regulations of the Coordinating Committee for Export Control, the Western agency that limits technology exports to communist nations.

In Oslo, authorities announced that there would be no other indictments beyond the charges filed against Bernard Green, a British-national who served as a Kongsberg executive. The Norwegian statute of limitations went into effect yesterday, meaning that authorities have dropped their investigation of three other unidentified Kongsberg officials.

"Police said they could find nobody else to prosecute," said Arve Thorvik, economic counselor at Norway's Washington Embassy.

The Norwegian announcement is likely to raise eyebrows in Congress where conservatives have charged that Norway has lagged behind Ja-

pan in bringing the culprits to justice.

"This is totally unacceptable," said one congressional source. "It raises suspicions that there is a cover-up going on in Norway."

"It's outrageous, the idea that this one miserable Brit would conspire with himself with no Norwegian participation," the source said.

Countered Mr. Thorvik: "We don't put people in jail who don't belong there."

Much of Kongsberg's management was dismissed last year when the company encountered financial difficulties. Since then, the government has sought to sell most of the firm's commercial undertakings in an effort to consolidate its defense activities.

Kongsberg produces the engines for the U.S.-built F-16 fighter jet and the Penguin anti-ship missile for the U.S. Navy's SH-60B Seahawk helicopter. The company was awarded

an \$18 million contract in February to build, under auspices of the U.S. Air Force, five underground communications bunkers for Saudi Arabia's Boeing E-3A Airborne Warning and Control Systems.

In response to Kongsberg's role in the diversion of technology to the Soviet Union, Mr. Thorvik said the government had forbidden the company to engage in any further trade with communist countries, had closed its Moscow office, ordered that it halt all repair and maintenance work on equipment already sold to the Soviet Union, shut down Kongsberg Trading Co. — the subsidiary that traded with the East — and ordered a review of Norwegian export controls.

"Everything has been cut off," said Mr. Thorvik. "If the Russians lack spare parts, they won't get them from Kongsberg."

Norway, he said, was first in-

formed of the diversion on Jan. 29. In early February, the United States backed up its allegations with documented evidence.

"At all stages in the investigation process there has been close contact between Norwegian and U.S. authorities," Mr. Thorvik said.

He said the two countries were still investigating the link between the sale of the milling machines and the Soviet Union's drive to obtain more quiet propellers for its submarines.

"This machinery produces more propellers, faster, but you've still got to know how to make propellers more quiet," he said.

Mr. Thorvik said Norway is possibly "more concerned about quiet Soviet submarines than America because they come close to our country when they leave their base in the [Soviet Union's] Kola Inlet."

"This is not a matter taken lightly by Norwegian authorities," he said.

Mr. ROWLAND. Thank you, Mr. Chairman.

Just to give you a flavor of the information that we have. Japan's Metropolitan Police Department is investigating several government officials suspected of having helped Japanese electronics giant, Toshiba, divert sensitive Western technology to the Soviet Union. The officials of Japan's International and Industry Ministry came under suspicion when police last week seized company memos indicating that they had helped Toshiba skirt restrictions on exports to Communist countries.

So what we have, Mr. Schulze, is memos and memorandums that have been seized by the Japanese Police Department.

In studying the issue, which Mr. Hunter has done extensively, you will also find that in order for Toshiba to export this technology, they had to very deliberately and consciously divert and change some of the export licenses, they had to make some falsifications, and I believe that these memos and memorandums that the Japanese Metropolitan Police have will uncover more of them.

I will point out, however, to our knowledge officials did meet with KGB agents also. So I think that that clearly demonstrates that—

Mr. SCHULZE. When you say officials, you mean officials of MITI met with KGB agents?

Mr. ROWLAND. Yes.

Mr. SCHULZE. Is that right? Okay. Thank you.

From your investigation, do you have any knowledge as to whether an M/A Com 2000 E Video Cipher No. 2 Satellite Decoder is on the restricted list?

Mr. HUNTER. No. No.

Mr. SCHULZE. All right. As word of these hearings got out, I started receiving phone calls about other products shipped to a variety of other countries through our other trading partners. And I've received information that this is on a restricted list, and yet has been spotted in other areas.

Mr. BONKER. Mr. Schulze.

Mr. SCHULZE. Yes.

Mr. BONKER. If I may be permitted, all countries who belong to COCOM are mutually committed to the same restrictive control list, the list that contains the technology that's subject to export licensing in each of these countries.

The United States goes a bit beyond that. We have unilateral controls beyond the multilateral controls that are in place. But as long as those items are on a list, and they're subject to an export license, then the licensing procedures must be followed.

In this particular case, there was falsifying of information, as you know, on the license on technology that otherwise was restricted.

Mr. SCHULZE. Yes. The reason I asked this question is that I understand that we have just licensed this for export to Canada. Yet, although that happened recently, it may already have been diverted to a Communist country.

Mr. BONKER. Now, Mr. Schulze, that's a very serious allegation. We do have a special arrangement with respect to export of technology to Canada, and they cooperate fully in our export control program.

So if you—

Mr. SCHULZE. That's exactly why I brought it up.

Mr. BONKER. If you're implying here that there's diversion, you should immediately bring it to the attention of the Department of Commerce.

Mr. SCHULZE. I have done that within the last hour.

Mr. HUNTER. Mr. Schulze, I think you have hit on a key issue that is a part of this whole issue. Because you can't separate, in my estimation, defense and security from trade because the components that we trade do have an effect on the industrial base of our adversaries.

We presently have a situation in which we have trading partners who sell militarily critical technology to our enemies. I mean that's evident when Exocet missiles, for example, made by France, hit American ships.

The cry from American industry has been we're not getting a piece of the action and we're getting outsold and outcompeted by our allies who are selling to Communist countries.

I think what we should do is make a turnaround in our basic philosophy in that we shouldn't lower our standards so that we can get in on the action; we should force our allies to raise their standards.

And let me just tell you. Over 5,000 defense programs in the Soviet Union are being carried out, or have been carried out over the last 20 years with Western technology that was illegally obtained, largely by these phony shell companies that exist throughout Europe and a few of them in the United States.

The point is that we sell in America some military technology that goes to the people who are contemplating the killing of American men and women on the battlefield. I think it's a moral issue, I think it's a trade issue, and I think that it's one we should resolve by moving the standards upward, not by lowering our own standards to be consistent with those of France and West Germany and other countries that don't have many compunctions about selling weapons and the wherewithal to kill American citizens to our enemies.

Mr. SCHULZE. I thank the gentleman. I thank the panel. I yield back the balance of my time.

Chairman GIBBONS. Mr. Frenzel.

Mr. FRENZEL. Thank you, Mr. Chairman.

I'm grateful, as the other members are, to all of you who come to testify. It's a serious matter, and we have to pursue it seriously.

Mr. Hunter, is it your opinion that the Committee should request a security briefing from the Department of Defense?

Mr. HUNTER. I would recommend, at least in this case, to read—there's been a special report prepared simply on the Toshiba matter. It's available in the Armed Services' safe, and I would recommend that the members at least read that. And if you think you need more, I think you should have a hearing on the basic hemorrhage of Western technology to the Soviet Union through our trading practices.

I think that would be a good hearing to have above and beyond the Toshiba issue. But I would at least recommend that the members read the classified statement on the Toshiba situation.

Mr. FRENZEL. In this case, the violation was a result not of finding a loophole in the law nor of having too soft a law; it was a case of outright lying to avoid the strictures of the law.

Mr. HUNTER. Yes.

Mr. FRENZEL. Is that true of most diversions?

Mr. HUNTER. Well, I think the diversions are a combination, Mr. Frenzel. I think they are cases of illegal transfers that are made, yes, transfers that are made in violation of COCOM laws. But many of them are made, in my estimation, because when a company weighs the risk, especially if it's a company in economic trouble, and says a KGB just offered us \$20 million for this restricted thing, well, what will happen to us, Mr. Vice President, if we get caught? Well, the maximum you can get under this COCOM 1019, as I understand, is basically a four-time drunk driving statute. I mean it's like one year in jail and a fine.

So if you have a company that's in economic trouble and they weigh the risks, and businessmen are very logical, there's no club with which to hit them, even if they get caught.

So I think you have Western companies that are in the position of a truck driver who drives 90 miles an hour across the United States. He makes an extra \$20,000 in profits by not having to obey the speed laws, and he gets \$5,000 worth of tickets. He writes them off. And we have to put Western business in a position where they can't write off the punishments of these transfers. And a one-year statute for this I think is intolerable.

The Walkers are getting life for doing essentially the same thing that these businessmen in three-piece suits did.

Mr. FRENZEL. I don't dispute the fact that we need tough laws.

However, I'd like to ask Congressman Bonker how it affects what he's doing in H.R. 3, of which Mr. Hunter has a very low estimate. As I understand this case, it's somebody going around the law. It doesn't make any difference whether it's tough law or weak law or intermediate law, we are dealing with a scofflaw in this case.

Mr. Bonker, can you tell me your opinion on this?

Mr. BONKER. Well, Mr. Frenzel, that's a common problem whenever diversion exists. It usually occurs when a company or company official has lied on a form or, in some corporate way, attempted to divert that technology into the Eastern Bloc.

And our response always is to tighten the controls on U.S. exporters. And the result of which is that those unilateral controls, some of which are excessive, makes it more difficult for U.S. high tech firms to compete in the world economy.

The best prescription is to focus our attention on the dual use technology, that is a militarily critical technology so that we can devote our resources and our attention to that critical technology rather than trying to control all forms of technology, however insignificant militarily.

And, secondly, and this is a point that Mr. Perle has made before our Committee in past years, that is that we need to strengthen the apparatus known as COCOM and upgrade the enforcement programs and stiffen the penalties so that those who violate these multilateral laws in the future are subject to stiffer penalties to serve as an effective deterrent.

Mr. FRENZEL. I'm glad you mentioned COCOM. I understand there's a COCOM meeting taking place right now. It didn't have this matter on the agenda, but obviously this matter is probably going to dominate the discussion.

Mr. BONKER. Well, Mr. Frenzel, it most definitely should, and you'll have Mr. Derwinski appear before you in the next panel, and I would pose that question to him.

I frankly feel that we need a tougher position at COCOM, especially in view of the Toshiba incident. And, incidently, we call it Toshiba, but let's not forget that Kongsberg is involved here. And when Senator Garn introduced his amendment on the Senate side, he made all kinds of exceptions for Kongsberg and very few exceptions for Toshiba. So this is a problem that has occurred in both countries, and our punishment, if we're to apply any punishment, ought to be equal so that we're not singling out Japan because we have such a huge trade surplus with that country.

But I would pose that question to Mr. Derwinski, and see what the State Department is doing to strengthen enforcement efforts within COCOM.

Mr. FRENZEL. Well, will we lessen the cooperation in COCOM if we apply punitive measures, if we engage in this unilateralism? For instance, what will happen if the Congress acts while the Administration is negotiating?

Mr. BONKER. Well, that's why I feel in view of the section within the Export Administration Act, Sections 121 and 126, where the President now has authority to restrict imports for those who violate these multilateral agreements, and because investigations are ongoing in Japan and Norway that it be precipitous for the United States Congress to take action at this time.

Now, perhaps we could have similar language that would be effective down the road if these countries did not bring to justice those who were involved in violating the export control laws. But this is another instance where the Congress is rushing in. And there are many here who feel that the Congress ought not to be rushing in on matters that otherwise are the prerogative of the Executive Branch.

Let's give them the latitude and the existing authority they have to deal with this problem. Then, if they don't act, I think it's proper for Congress to statutorily mandate action.

Mr. FRENZEL. Well, that's my general opinion too. But I think that the gentlemen who are pushing this are also doing us a great service in keeping the matter front and center.

Mr. ROWLAND. Mr. Frenzel, may I make a response to that question?

Mr. FRENZEL. Please do.

Mr. ROWLAND. I think it's important that a comment be made.

Number one, I believe we're on high ground in telling the rest of the world, including our allies, that we're not going to stand back and allow companies or other nations to consciously and deliberately export sensitive technology to the Soviet Union. And we can stay here and talk at great length about the balancing act, and how we need to make sure that we're not hurting ourselves, while, at the same time, sending that message and providing a deterrent.

Yes, I agree we need some stronger language and that we can make the bills tougher. But if we don't provide for some teeth and if we don't stand behind some tough punitive action, then all the tough bills in the world aren't going to make a darn bit of difference.

I happened to see a letter that was sent from Toshiba to Toshiba authorized dealers. And in this letter, and I'll just paraphrase a few remarks, they said here's a letter we're sending out to all our dealers to tell you what we've done about this terrible issue. And what they basically said was the Japanese have investigated and that the President of Toshiba and two other executives have resigned. What we do know is that at least one of them is still a consultant. And that two executives were arrested, and that Toshiba was restricted from exporting to Communist countries for one year.

The memo continues to say that, based on the above facts, we at Toshiba feel that, number one, the issue has been resolved and, number two, no actions will be taken in the United States or Japan that will negatively impact on our U.S. business.

Are they taking it seriously? I don't think so. Are we sending a message to other nations? I don't think so. Are we telling our allies that we're not going to sit back and be pansies once again to exporting a very sensitive technology that's going to affect our future and our service men and women, I think not.

So I think that we cannot sit back and be afraid to take some action. Always keeping in mind that very important balancing act. But I just want to point out that Toshiba telling their dealerships and their people that everything is fine and copacetic and back to normal I think is outrageous, and that we have a responsibility to the American people to do something.

Mr. FRENZEL. I thank you for your statement.

There is a problem, of course. Since these hearings were announced, I've had a number of companies come see me specifically, a number of Toshiba dealers from my own district have visited, and that's to be expected, of course. Surprising how many of them there are. They do come around.

But I've also heard from a lot of industrial companies and two, three, or four national companies. They claim that the major restructuring of their plants, necessary to become more competitive in international trade, will be imperiled by their failure to receive ordered materials from this company.

I have been told by some American firms which are among the Fortune 200—or maybe among the Fortune 25—that they need parts and semi-finished products from Toshiba. Two very large firms in my own district need some of these things to continue work on defense contracts. Some companies require Toshiba products to continue work on other contracts, and some of their arrangements are midterm in long-term contracts. We're not talking a few thousand employees in these various companies; we're talking an awful lot of employees in the United States.

When we do what Duncan has described as kind of a capital punishment threat, which I agree will be a good deterrent for the future, part of the people we're slaying are our own.

Can you give us some guidance as to how we provide, and Chairman Gibbons asked this too, some insulation for our people when we go about punishing other people?

The usual U.S. response to anything that happens abroad is to cut our own throat and then say, okay, you guys, we showed you.

How do we get around that problem? Anybody can answer that.

Mr. HUNTER. Mr. Frenzel, the Wall Street Journal, I believe, did an analysis as to whether or not our industry was absolutely critically dependent on the Toshiba Corporation for anything. The conclusion was that we buy a lot of stuff from them, but we're not absolutely dependent on them.

The world is not going to stop and the economic world is not going to end if one company is foreclosed from doing business in the United States.

Once again, Mr. Frenzel, the total payroll of Toshiba employees in the United States will not equal what we are having to spend this year in extra taxpayer dollars, \$113 million, to make up for this treachery. And the \$30 billion figure is far beyond what anybody contemplates.

Now, I would submit that companies go out of business all the time. For example, we've had a number of big American companies go out of business, and nobody came before, or maybe people did come before the U.S. Congress and say you can't let International Harvester go out of business or restructure because they make parts for this motor company or this implement company. We said this is free enterprise. There's competition out there. Somebody else will fill the void.

And I can tell you most of the things they make, like the lamp top computers, the TVs are things in which there's enormous competition. And I would submit even the Ram-D chips, for example, are made, in fact, in higher quality by IBM. Now, IBM doesn't sell their chips. As I understand, they keep them for their own components. But any company we have in America, people who are resourceful and creative.

If you told American industry tomorrow Toshiba is not going to do anything and we're going to cut them off at the legs, these guys would be able to go out and make some adjustments. And once again the American industry only gets table scraps from the Toshiba Corporation. They do \$30 billion worth of work a year, and we get about one-thousandth of that in this country.

Mr. FRENZEL. You're not understanding my question.

Mr. HUNTER. Okay.

Mr. FRENZEL. My question concerns the companies which have contracted with Toshiba, which have done joint R&D with them, and which are in the middle of long-term contracts. They didn't know that we were going to pass an ex post facto hanging law. They made their deal a long time ago. It's not their fault.

Mr. HUNTER. Okay. Let me answer.

Mr. FRENZEL. How do we insulate them?

Mr. HUNTER. Let me answer that. I said earlier, when the Chairman brought that up, the Senate amendment provided for contracts that were in existence, that are in existence presently, for those to be protected, and also provided for spare parts and the supply of spare parts to be protected.

And I said that I could live with that. What I don't think we should allow this to get into is a how can we convenience industry or how can we convenience consumers and allow that to be the paramount consideration rather than the safety of our men and women in the Armed Services?

So I can live with protecting existing contracts, and I can live with allowing spare parts to be provided. And if there are other critical problems, and the Senate has a number of conditions, I could live with those also.

But I think we do need to have a permanent ban. And I don't think that will have a critical effect on American industry. And I think that the analyses that have been done by economic experts in this country bears that out. We don't absolutely depend on Toshiba for anything. They have a number of components that we use in a number of industries, but they don't have a monopoly in any area.

Mr. FRENZEL. It depends on whether you've signed the contracts with them.

Mr. BONKER. Mr. Frenzel, if I could just add. I am just going to say that the contract sanctity provision in Senator Garn's amendment to the trade bill is loosely worded and does not cover the number of issues that you've raised. It does cover spare parts as of May 1, but a lot of things will fall through the cracks.

Mr. FRENZEL. Yes. I'm told semi-finished products, whatever they may be, are not covered.

Mr. ROWLAND. Mr. Frenzel, if I may add just a few other thoughts, and I think you are bringing up a very important point, and we get back to the balancing act.

Perhaps we should have some consideration of what flexibility we're willing to give the Administration in implementing this policy. Perhaps a transition period of one or two years, a grandfather clause, the spare parts that we referred to. And as I referred to in my opening remarks, slapping a very heavy surcharge on Toshiba products that we deem are not critical, and then it brings us back to again the \$99 question. And that is what are we, as United States citizens, consumers, distributors, companies, whatever we are, what are we willing to sacrifice to send this message to Toshiba, Kongsberg, and other nations. And then we can build in the so-called exceptions if we think they're necessary.

Mr. FRENZEL. I didn't phrase my question very artfully because what bothers me is every time somebody misbehaves, or we believe we misbehave internationally, about the only way the United States reacts is to stop their imports into this country. That's what we consider to be a big punishment. Yet when we do that, we either punish consumers, as we would with large tariffs for whatever they're building, or we make U.S. industry less efficient because it doesn't have enough competitors or whatever. Or we bother U.S. productive processes because we can't buy the parts or the elements or the semi-finished units or whatever it takes to make their product.

What I'm looking for is something else that makes COCOM work, that does not require the United States to pass ex post facto laws that go back and get somebody because they didn't do it right in the first place.

I'd like to make COCOM work.

I have a final question for Duncan, and that is, Duncan, you didn't mention it today but you did before on the floor one time. You said something about the passage of time between the date that the Government of Japan was notified by our Government, whichever agency, and the time the Government of Japan began to take action.

Can you go into those details without violating security?

Mr. HUNTER. I think I can say very openly that the statute of limitations, three-year statute of limitations on punishment for these transfers will probably be a bar to any criminal prosecution against the principals in the Toshiba case. In other words, it looks to me like Japan waited for a long time. If they would have acted—and again you have to go back to the classified figures—but if they would have acted when we told them about it and gone in and investigated Toshiba and started prosecutions fairly quickly, they could have prosecuted a number of people criminally for this.

And what I got from our own State Department and Department of Defense is probably the statute of limitations on the transfers have run on almost everybody. So it looks like Toshiba made some phone calls and things were delayed. That's what one could surmise.

Mr. FRENZEL. Let me get a better picture of that.

The contract was signed in 1981, with shipments in 1984 perhaps?

Mr. HUNTER. 1983, 1984 were the shipments.

Mr. FRENZEL. When did the statute begin to toll in Japan? As I understood it, we didn't inform them until 1986. Was there a six-month lag or a year lag or three months? We are only halfway into 1987 now.

Mr. HUNTER. OK. As I understand, the three-year statute on the substantive acts that they can be prosecuted on has lapsed with regard to the transfer.

Now, if they made it 1983, that would kick it up. That means if they had acted in 1986, you had a certain period of time in 1986, and you have to get the precise dates, then the statute wouldn't have lapsed.

But, in fact, when they finally made their big move and kicked in the doors at Toshiba, the statute had lapsed by several months with regard to almost all the principals involved.

Now, that's the information I have from our State Department, and you'll have to look at the exact figures.

Mr. FRENZEL. We could get that do you think from State, Defense, or Commerce?

Mr. HUNTER. Yes, sir. Let me just say one other thing, Mr. Frenzel.

Mr. FRENZEL. Be my guest.

Mr. HUNTER. I appreciate your searching for something other than punishment as a deterrent. But, you know, I think your position is the same position of many American experts who have searched for some deterrents for criminal punishment in the United States other than sending people to jail.

Now, can we rehabilitate them? Can we control them? And the point is that there probably aren't a lot of creative things you can

do with businessmen who sell out for a buck other than take away their bucks.

Mr. FRENZEL. I'm all for that. I just don't want to put any of our people in jail who had nothing to do with the operation.

Mr. Chairman, I yield.

Chairman GIBBONS. Mr. Crane.

Mr. CRANE. Thank you, Mr. Chairman.

I want to congratulate our colleagues on their testimony.

The first question I have concerns Toshiba Corp. My understanding is that Toshiba Corp. is a big conglomerate, is that correct?

Mr. HUNTER. Yes.

Mr. CRANE. It was a subsidiary of Toshiba Corp. that was guilty of this offense, namely Toshiba Machine Corp., Ltd.

Now is your legislation directed at the parent corporation as well as the guilty subsidiary?

Mr. HUNTER. Yes.

Mr. CRANE. I wonder why. You know, we have a lot of American corporations that engage in activities, some perhaps on the reprehensible list. Why would you target the parent corporation in this instance and not focus your attack directly against the one offending party? As I understand it, Toshiba Machine Corp. is a publicly-traded corporation listed on the Tokyo Stock Exchange. It was considered a very successful company in part because of the transactions that we've heard about.

But does it seem an appropriate response to take in the whole family?

Mr. HUNTER. That's a good question, Mr. Crane, and I think you have to approach it in the context of what I would describe as compartmentalization.

To give you an example, with Kongsberg, Kongsberg compartmentalized their criminal activity, or their criminal prosecution down to the point where they're not—the Government of Norway which owns Kongsberg is not being punished, Kongsberg is not being punished, the subsidiary is not being punished. And there's one British National in the company, and he's the one guy who is being punished.

Now, I think the reason for holding Toshiba responsible, because it has a controlling interest in their machine shop, basically Toshiba Machine is their machine arm, is the same, I think, follows the philosophy of the President of Toshiba, greater Toshiba, who resigned.

Now, he understood that he had a responsibility. And I would submit that Toshiba has control of Toshiba Machine. So if you approach the problem from my direction, which is one of establishing deterrents to other companies, I think the best way to deter a subsidiary that's controlled by the father company, that is Toshiba, is to hold the father company responsible.

Now, I think the President of Toshiba acknowledges that if he had had a policy of strict compliance with COCOM laws and made it very clear to his people and his subsidiaries that he would not tolerate transfers like this, very, very high visibility transfer with a five-year service contract, then it wouldn't have happened.

So I guess it's a matter of balance and saying how much are we going to allow the defending party to compartmentalize? Are we

going to do it with one employee who happened to be a national of another country, like Kongsberg did, are we going to allow them to compartmentalize by only punishing the subsidiary that offended? Are we going to allow to compartmentalize by going to another level? Are we going to hold the parent company responsible?

I think that if you are going to deter Western companies from transferring critical technology to our enemies, you have to hold the parent company responsible. I think the President of Toshiba realizes that. That's why he resigned.

Now, he stated that although I wasn't involved in this, he said I feel that I am responsible. I agree with him that that company, Toshiba, Greater Toshiba is responsible.

Mr. CRANE. I think there were certain other complicated aspects that are cultural in nature involved in his resignation too. Part of this is the wedding of employees in Japan to corporations. I mean it's almost like a family relationship. In this instance, for example, Mr. Saba, who was former chairman, feels that he brought shame on the entire family of Toshiba. And this, as much as anything, was responsible for his resignation. It's, you know, a loss of face in Japan.

In a sense it's somewhat comparable to what happens here in the United States when, say, a pharmaceutical firm spends millions and millions of dollars trying to build up a good name and, all of a sudden, they slipped up somehow and produced Thalidomide.

The fact of the matter is it wasn't because of slipshod R&D effort. They certainly did not intend to put the good name of a corporation like that at risk because of releasing one bad drug. But those things happen.

It strikes me that there's a certain parallel here to indict the whole Toshiba family. Yet I will agree with Mr. Saba that Toshiba should have had greater controls and greater supervision. I think they've learned a lesson through this bitter experience.

However, a shotgun approach like the one this legislator recommends is not really directing our fire most effectively, and it simultaneously subjects some of those American companies, that have done business with other components of the Toshiba family, to injury.

You don't agree with that?

Mr. HUNTER. Just very simply, the Toshiba Corporation controls Toshiba Machine, and again—

Mr. CRANE. They have 51 percent control to be sure. But, on the other hand, they had none of the managerial responsibility. That was left in the hands of the executives that ran Toshiba Machine Corporation.

Maybe, as Mr. Saba acknowledges, they should have had more managerial involvement, and now they do. I believe they have their accountant on the Board of Toshiba Machine Corporation; not that that solves the problem, but they've taken steps to try and ensure that they have of a hands on control of the day-to-day operations because of this.

I'm concerned about all the U.S. business involved with Toshiba. We're going to hear testimony from several such firms later today, I've already heard from many companies by telephone and I've spoken with representatives of other businesses in this country,

which are not necessarily doing business with Toshiba Machine Corporation, but with other parts of the Toshiba family.

My concern is, one, how we set an example, which is also your concern and totally valid. But how do we retaliate with a rifle shot rather than a shotgun.

Secondly, how do we guarantee that we aren't going to have repetitions of this sort of thing again.

For example, Mr. Perle is going to testify later. I've read his testimony, and one of his grave concerns is the indifferent, weak, and irresponsible attitude of COCOM. In his testimony, he even cites having spoken to a Japanese official and expressing concern that COCOM had to be strengthened. And the Japanese official said, well, that would cost \$45,000 to us, and we're on a tight budget.

What can we do in a positive fashion to beef up COCOM, because I suspect there may be more of these instances of this type than we are even aware of. This one just happens to be a very dramatic occurrence.

We should use this as a springboard for some real positive policy decisions in order to preclude a reoccurrence of it.

Mr. HUNTER. Let me just say, Mr. Crane, I appreciate your concerns.

I think if you're going to deter Western business from doing this, I think it's necessary to go after the company, Toshiba, Greater Toshiba, not just Toshiba Machine.

I want to remind you that the President, although he was so ashamed he resigned, he's still going to hang on as a consultant, probably at a very good fee.

And the point is Greater Toshiba is doing a lot of business with the Soviet Union. I think you have to acknowledge that. In fact, I think one thing that should come out of this is an investigation of just how much technology is flowing from our allies.

And particularly Japanese companies with high tech into the Soviet military machine. I think we should investigate that. But the point is, if we are really going to deter other Western companies from doing this, the one place to hit them is the pocketbook.

And if you hit the greater corporation for what their subsidiary did, you can bet there is going to be a lot of greater corporations, parent corporations around this world who are going to take a very close look at the operations of their subsidiaries, and saying, are you guys going to do this?

The Japanese asked for a one-year-only ban on Toshiba Machine only, for Warsaw Pact countries only, and once again, Kongsberg compartmentalized it down to where one British national is going to be punished.

So I think it is reasonable to go after the greater company.

Mr. CRANE. Well, I thank you gentlemen for your testimony. I would hope that, at the very least, a Japanese investigation of this is carried to fruition. Moreover, I hope that the matter of whether there may have been Japanese government officials involved conspiring with people in the private sector is looked into, and that the appropriate parties are drawn and quartered. I thank you for your testimony.

Chairman GIBBONS. Mr. Pease.

Mr. PEASE. Thank you, Mr. Chairman. I was intrigued by Mr. Crane's suggestion a minute ago that drawing and quartering might be the proper punishment in this case. If he was willing to put that into a bill, he could probably get some co-sponsors, at least among the panel members, some of the panel members.

I think Mr. Hunter has said a couple of times that we want to punish Toshiba, to set an example for other—

Mr. HUNTER. Deterrence.

Mr. PEASE [continuing]. Yes, companies that might try to do the same thing. And I think deterrence is often helpful, but does that suggest that we would have to approach these problems as they come up in the future on a case by case basis; that the Congress would have to pass a law each time, punishing each nation that releases secrets? Have you given any thought to the possibility of finding some generic statutory way of dealing with this problem?

Mr. HUNTER. Mr. Pease, I think you make a good point. I think Mr. Bonker referred to the President's discretion. If he wanted to today, apparently he could bar Toshiba, but since Congress is charged, constitutionally, with providing for the common defense, and we are talking about defense, yes, I think it would be good to have a law to the effect that where American security is compromised the corporation—and we could define and take care of the problem that Mr. Crane has—we could define that the parent corporation, or the subsidiary, or whatever, will be foreclosed from the American marketplace by operation of law, without having to vest discretion in the Executive Branch.

I think that is a reasonable thing. I think that is the only thing that is going to deter these very logical thinking businessmen from selling out to the Soviet Union for profit.

Mr. PEASE. Mr. Hunter, are you a lawyer, by any chance?

Mr. HUNTER. I had a storefront law office, Mr. Pease. I was going to practice till I got it right, but I ran for Congress instead.

Mr. PEASE. You are familiar with the constitutional prohibition of bills of attainder. Do you think that a law that we might pass which would single out one or two international corporations would pass muster, constitutionally?

Mr. HUNTER. Oh, sure. I think that the Constitution does not prohibit us from imposing prohibitions on those people who do business in the American market, foreign corporations who have the privilege of doing business in the United States.

Mr. PEASE. Do you think we can single them out by name in the statute?

Mr. HUNTER. Well, obviously, the Public Law right now that Mr. Bonker referred to, does allow, on a case by case basis, the Executive Branch to say, Company A, B, C, you are banned from the United States' markets because you sold Western secrets. I do not see a constitutional problem.

Mr. PEASE. Well, we have dealt specifically in the law with Rumania, for example, on GSP and MFN, so I suppose there is a precedent there.

Mr. ROWLAND. Mr. Pease, can I address your earlier question. Getting back to penalties, and so forth, indeed what Kongsberg and Toshiba did violated COCOM, there is no question about that. I

think the assumption we have to make is that no one, I think, believed that this would ever happen.

I think in our wildest dreams and nightmares, I do not think anyone ever believed that Toshiba or Kongsberg, or anybody else, would sell such sensitive Western technology to the Soviet Union.

Now we are faced with a dilemma of specific restrictions and regulations without having any teeth or any deterrent, and I do not think anyone expected, when the regulations were put together, that we were going to cross into these waters, and that we really did not have a response against a particular company, or a particular nation, if and when this occurred. I think that is the position we are in right now.

Mr. BONKER. Mr. Pease, I do not wish to contradict the gentleman, because this occurred I think before he arrived in Congress, but Senator Heinz is the sponsor of this provision in the Export Administration Act, and his principal concern was that foreign companies would violate multilateral controls, and, as a result we needed some kind of punitive action that could be employed by the United States and that is why the provision was in there.

I presided over the conference, and reluctantly accepted his provision. Now I see a little of the logic behind it, and that is the law that we ought to be pointing to in this particular case, rather than passing new laws or amendments to the trade bill that is pending before the Congress.

Mr. PEASE. Mr. Bonker, I appreciate your testimony, and I certainly appreciate your expertise in this area. You spoke in your testimony of strengthening COCOM. I wonder if you might amplify on that a little bit.

In particular, I am interested in knowing who would punish whom. Under your ideas for strengthening COCOM, would it still be the responsibility of the national Government to punish the corporations operating within a given country for violations of COCOM regulations?

Mr. BONKER. Well, Mr. Pease, in the first instance, all member nations have their respective export control programs, and enforcement procedures, and they are fully expected to carry out those procedures and those who violate the export control policies ought to be subject to penalties.

If member nations do not adhere to multilateral controls and enforcement proceedings, then I think the United States, since we are the principal nation that is concerned about the diversion of technology, may have no choice but to move with unilateral action against those violating companies.

But I do feel that these are sovereign countries who are member nations of COCOM, and we cannot just wildly go around and punish whom we feel ought to be singled out. That we ought to work within COCOM, insofar as practicable.

If we feel the enforcement programs are weak, we ought to strengthen them. If we feel that the penalties ought to be stronger then we ought to advocate that. But I said it earlier, and I say it again: I think for Congress to step in before the investigations are complete, before the State Department has had a chance to fully address this issue within COCOM, such a Congressional action is precipitous.

Mr. HUNTER. Mr. Pease, can I comment on that?

Mr. PEASE. Surely.

Mr. HUNTER. It is going to be a cold day when a majority in COCOM votes to bar Toshiba from doing business with anybody.

I think that we cannot anticipate that. There has been no movement in COCOM to do that, and I think, for example, the French, who sell everything to everybody, are not about to go after Toshiba for doing essentially the same thing that they are doing.

The Defense Minister of Norway talked to me, and told me that they intend to prosecute one individual, and that is the British national. They have made a decision. And furthermore, he said that his laws basically prohibit any tough, meaningful prosecution. He said they are 1940's laws, they are going to have to update them, and they anticipate doing that some time in the future.

But this is not an investigation that is halfway through or three-quarters of the way through. Mr. Weinberger has talked with the Japanese. They have laid out what they were going to do. They have banned Toshiba Machine only, for one year only, from Warsaw Pact countries only, and they have received the resignations of the president of Toshiba and Toshiba Machine.

A couple of them are going to stay on as consultants, and that is the ball game. So, let me just say that the Congress has the power, we have the duty of providing for the common defense. In this case you cannot separate trade and America's security, and I think it is going to be a cold day when COCOM starts taking tough action, because the component nations of COCOM are not interested in raising the fence. They are interested in lowering the fence.

Mr. PEASE. I think the dialogue we have just heard is very instructive. Clearly, the approach that Mr. Bonker outlines is the preferred approach, a multilateral approach, but, in reality, as Mr. Hunter says, we know that individual nations will not prosecute violations within their borders as vigorously as we might often think they should, and that it would be very difficult to get a majority of COCOM to agree on sanctions.

So that leaves us with a dilemma of wanting to go one way, and yet knowing it is not likely to be terribly satisfying in the end. I do not know what the solution to that is. I would like, finally, Mr. Chairman, just for one minute, to pick up on something that Mr. Rowland said in his testimony.

He mentioned the possibility of imposing duties on Toshiba goods coming into our country. That is an approach that I have been pursuing for a couple of days now. It seems to me that if we ban Toshiba products, it hurts Toshiba. It also could hurt some Americans who work in Toshiba plants, and that sort of thing, but it does not provide any funds at all to help the United States correct the problem, i.e., develop a counter-strategy for quieter Soviet submarines.

If we were to impose a higher tariff on Toshiba products, high enough to bring in revenue without being so high as to prohibit them from selling goods in this country, we would get some money flowing into the Treasury, which would, in at least a small degree, compensate the United States for the extra cost that it is going to have to incur.

So I think that is a good suggestion, and I, for one, intend to pursue it. Thanks, Mr. Chairman.

Chairman GIBBONS. Thank you. Mr. Duncan.

Mr. DUNCAN. Thank you, Mr. Chairman. I would also like to compliment the witnesses, our colleagues, on the expert way they have prepared themselves on this particular subject. I know that I have gotten a great deal out of their testimony, and I share the anger that has been expressed by them over the outrageous actions of Toshiba. I believe that the American people expect the Congress to do something.

I think, though, that we must be sure that what we do is the responsible thing. While I am fully supportive of the steps to deny Toshiba the benefits of access to United States' markets, I think we need to be careful that we do not take a bad situation and make it worse, by hurting innocent United States manufacturing companies and their workers.

Mr. Frenzel referred to existing companies, and a good example is in my congressional district. An American company in my district has spent hundreds of millions—and I repeat—hundreds of millions of dollars, to build a state-of-the-art aluminum manufacturing plant.

When the project was started, Toshiba was the only company in the world that could meet the electrical specifications for the new plant. The equipment was purchased from Toshiba, and that equipment is all now in place. It covers everything from electric drives to computer controls and software engineering.

If total sanctions against Toshiba are imposed, and my constituent is unable to obtain replacement parts, the plant will not be able to operate and jobs will be lost. We would not want to put United States citizens out of work. Most of you have referred to the amendment that was passed in the Senate, the amendment sponsored by Mr. Garn and Mr. Heinz, Mr. Proxmire, Mr. Helms, Mr. D'Amato, Mr. Dixon, Mr. Glenn, Mr. McCain, Mr. DeConcini, Mr. Hatch and Mr. Symms. I gather that amendment is acceptable to you, John Rowland, the Senate amendment to cover existing problems that these companies might have?

Mr. ROWLAND. Well, Mr. Duncan, I am not even sure if we are all going to agree that the Senate bill approaches and takes care of all the so-called exceptions that we have been concerned about and raised this afternoon, and I suppose there will be some other debate over whether three years is adequate, or whether it should be for life, or one year.

So, I think it is safe to say, that in our efforts to try to present a reasonable alternative, and a reasonable approach to a very difficult situation—and I am not speaking for Mr. Hunter—I think it is safe to say that we are willing to work out something that can really be effective in accomplishing the goals that we want, and maintaining the balance that I keep referring to.

We are presenting the toughest, gutsiest approach. Whether it is the most rational and reasonable approach, I guess we will soon find out.

Mr. DUNCAN. I was referring only to the exemptions. I am sure there are other things that we would also want to change, but I hope you will take a good look at the exemptions that were mentioned in the Senate amendment.

Mr. HUNTER. Mr. Duncan.

Mr. DUNCAN. Yes, sir.

Mr. HUNTER. I am not concerned about the spare parts and existing contracts. If that is something that is acceptable to you, in your situation, in your district, I can live with that. I think what I would like to see, what I am most concerned about, is a permanent ban on Toshiba with those conditions that will allow people who are under contract right now to complete their contracts and to get their spare parts.

Mr. DUNCAN. I think that is fair.

Mr. HUNTER. I think we can establish the deterrent with those conditions.

Mr. DUNCAN. Thank you both, and thank you, Mr. Chairman.

Chairman GIBBONS. Thank you, Mr. Duncan. Mr. Downey.

Mr. DOWNEY. Thank you, Mr. Chairman.

Mr. Bonker, I understand that you want to leave. You probably have other appointments.

I have had a chance to review some of the testimony, and I am deeply moved by the testimony of Mr. Perle who has referred to the House-passed amendments, and particularly, to one of your efforts, as the "Soviet Technology Relief Act of 1987" in the text of his testimony. He has a great way with words, as we know.

And he also said that the House amendments to H.R. 3 would do still more damage, decontrolling 40 percent of exports we now control for national security purposes, regardless of the impact of such action on our national security.

I would just ask you if you would like to comment on the fact that, according to Mr. Perle, the House has passed amendments to H.R. 3 that would open the way to dozens of Toshibas. I am not going to have a chance to ask Richard these questions myself, but I would be happy if you would possibly address his allegations here on this particular point.

Mr. BONKER. Thank you, Mr. Downey. I would be happy to comment on the export-control reforms that are in H.R. 3, all of which are aimed at easing the present restrictions on U.S. companies desiring to export into foreign markets.

There is a near universal view, at least shared by the business community, and the National Academy of Sciences which produced a valuable report on this subject, that our export controls are excessive.

And what we have attempted to do in our Committee--and the House apparently concurred because we had amendments on the Floor dealing with the same matters--is that we ought to reduce the number of items on that export-control list.

If I recall, there are over 200,000 items that are subject to export licenses, and the more bureaucracy that is involved in attempting to control virtually all forms of technology, even that which is not militarily critical, we really divert the attention from critical technology which is really the source of our concern.

Secondly, we have attempted to reduce the number of licenses required on low-level technology, especially those shipments to free world destinations. Again, we are trying to make the system more efficient and more responsible, more accountable, if you will, so that again, we can put our attention on critical technology.

But what has happened with respect to Toshiba has nothing whatsoever to do with the U.S. export-control laws. What has happened with respect to Kongsberg and Toshiba is something that has happened occasionally in this country, and that is, when a company or its officers falsify the information on the form, say that it is something that it is not, and it is a different end-user than what is specified—that has nothing to do with the export-control procedures. It has a lot to do with illegality, and that is where most of the diversion occurs.

And that is why I believe we need to enhance the enforcement programs among the participating countries of COCOM if we are going to deal with this problem in the future.

Mr. DOWNEY. Thank you, Mr. Bonker. In other words, basically, the law is pretty strict. It had, obviously, no impact whatsoever on Toshiba and on Kongsberg who were willing to go ahead, happily, and sell out their own respective concerns. One is a NATO country. The other, the Japanese, have a particular interest in the Soviet submarines since they spend a great deal of their defense budget on their own ASW capabilities.

So I just wanted you to clear that up for me. Duncan, I would like to congratulate you, and also John Rowland, for the work that you have done. I think that you are right. You begin, now, to see the problem in an international environment that we work in, how difficult it is to do something simple like punish Toshiba and punish Kongsberg.

Mr. Duncan, from Tennessee, and others who have close connections to the Toshiba Company because of technology that has been purchased, or employment, are clearly worried about the impact on their own districts, when it is also clear to me that we need to do something to send a signal to other companies not to do this.

That is why I am inclined, along with Mr. Bonker, to want to levy a very heavy fine on them, as punitive as we can make it, as opposed to limiting their ability to export into our market. I would prefer to limit their exports, but I do not know, politically, if that is going to be practical to do.

And I also, with respect to Mr. Crane, made the point that Toshiba is a multinational corporation, and because of its multinational activities, does not mean, does it, Duncan, that the president of the multinational, because it is large, should not be accountable for the activities of his subordinates?

Mr. HUNTER. Absolutely. If you are going to establish a deterrence, I think you have to include——

Mr. DOWNEY. I wonder if you could apply the same logic to the President, though I will not ask that question as that would be terribly unfair.

Mr. HUNTER. Or Members of Congress.

Mr. DOWNEY. That because you have a large operation, you should be accountable for the activity of your subordinates. In any case, I agree with you that we should do something. I do not know exactly what the vehicle is, but our failure to act, to me, sends the same signal as acting conceivably in a precipitous way, so——

Mr. HUNTER. Mr. Downey, I think we can reach a balance, and I think we can meet the concerns of Mr. Duncan and other people who have, companies who have contracts that are being executed

right now, and people who have spare parts problems, and cut Toshiba effectively out of our market with things like lap-top computers, VCRs, et cetera, and I think it is the job of this Subcommittee not to let the financial interest pull the wool over their eyes, and say, you cannot live with Toshiba, and we want a slap on the wrist.

Mr. DOWNEY. I agree. Thank you.

Chairman GIBBONS. Mr. Guarini.

Mr. GUARINI. Mr. Chairman, I think that I will pass this panel because they have been here long enough, and I know they want to get back to their offices. The questions can be directed to the next panel, so I will wait for the next panel.

Chairman GIBBONS. All right.

Mr. SCHULZE. Mr. Chairman, may I ask one quick question?

Chairman GIBBONS. Go ahead.

Mr. SCHULZE. Gentlemen, I have been told that both the Governments of Japan and Norway have offered to help, in any way they can, to make up for this.

Is there any way that they can, or may I have your thoughts on that?

Mr. HUNTER. I asked the defense minister of Norway. He said they wanted to help and be helpful, to close this gap, or to open this qualitative gap back up between our submarine fleets and the Soviets.

And I say, well, how about helping us pay for some of the extra monies that we are going to have to spend in R&D, and maybe new submarine construction, upgrading our listening systems in the world's oceans, et cetera?

And I said how would you folks like to help us pay for that, and he did not want to do that. He did not think that that was a reasonable way of helping. So, the point is that "Cap" Weinberger has been to Japan, he has talked with the Norwegians, and they have assured him that they are going to cooperate with us, and probably in the same way.

Mr. SCHULZE. I guess my question is, do they have technology which would help us achieve that goal in a hurry?

Mr. HUNTER. No. In my estimation, no, and I think there is a danger here. The Japanese want us to pursue a submarine technology program with them, and in doing that we are going to have to expose more of our sensitive technology to the Japanese Government at least, and I think there is a risk there.

Mr. SCHULZE. Thank you. Thank you, Mr. Chairman.

Chairman GIBBONS. I have one closing question for the panel. Do any of you know of any other incidents in which there has been a sale of technology that has taken place?

Mr. HUNTER. You mean of countries under COCOM?

Chairman GIBBONS. Yes, sir.

Mr. HUNTER. Absolutely, Mr. Chairman. I have reviewed hundreds of them.

Chairman GIBBONS. Do you have a list available?

Mr. HUNTER. Sure. There is a list available. I think some of them are open. I think some of them are classified. But Mr. Chairman, as I understand, the information I have seen has indicated there are thousands of Soviet defense programs, ongoing right now, that have been executed and are being executed with stolen technology

from the West, and there are in excess of 300 shell corporations in Europe alone, whose sole purpose is to purchase Western technology and divert it to the Soviet Union.

It is a massive business. And I guess the last thing I would like to leave with you, Mr. Chairman, is, Toshiba aside, things are not healthy right now. We have an enormous hemorrhage of Western technology going to our adversaries, the system is broken and it needs to be fixed, and COCOM is not getting it because the component nations of COCOM have a financial interest in selling to our adversaries.

Chairman GIBBONS. All right. I would like to see that list, I wish you would submit it to me, and without objection, I might place it in the record, if it is not too long. When can you get me such a list?

Mr. HUNTER. Sure. I can get you a list within today or tomorrow.

Chairman GIBBONS. All right. Fine. That would be very helpful. Don't give me a classified list, give me an unclassified list, and then just tell me how many more classified cases there are.

Mr. HUNTER. Certainly, Mr. Chairman.

[The information follows:]

Soviet Acquisition of Militarily Significant Western Technology: An Update

September 1985

Soviet Acquisition of Militarily Significant Western Technology: An Update

In recent years, the United States Government has learned of a massive, well-organized campaign by the Soviet Union to acquire Western technology illegally and legally for its weapons and military equipment projects. Each year Moscow receives thousands of pieces of Western equipment and many tens of thousands of unclassified, classified, and proprietary documents as part of this campaign. Virtually every Soviet military research project—well over 4,000 each year in the late 1970s and over 5,000 in the early 1980s—benefits from these technical documents and hardware. The assimilation of Western technology is so broad that the United States and other Western nations are thus subsidizing the Soviet military buildup.

Western products and technology secrets are being systematically acquired by intricately organized, highly effective collection programs specifically targeted to improve Soviet military weapon systems. The Soviet intelligence services—the KGB, the GRU, and their surrogates among the East European services—and Soviet trade and scientific organizations are actively involved in obtaining this technology. Targets include defense contractors, manufacturers, foreign trading firms, academic institutions, and electronic data bases. Only recently has the full extent of illegal Soviet technology collection efforts become known.

The purpose of this paper is to reveal in detail the structure of these Soviet programs, and to give examples of Soviet requirements and successes. Understanding the Soviet effort is a critical first step in protecting Western technology and preventing it from being turned against the West.

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Soviet Acquisition of Militarily Significant Western Technology: An Update

Introduction

Overcoming considerable technological inferiority over the past several decades, the Soviets have built the largest military industrial manufacturing base in the world and a massive research establishment to complement it. Their objective is to achieve military-technical capabilities that are at least equal, if not superior, to those of the West.

Their resource commitment is enormous by any measure; it has enabled them in recent years to narrow the Western lead in nearly all key technological areas, particularly microelectronics. In materials, explosive, and sensor technologies applicable to deployed tactical forces such as tanks, artillery, and antitank and surface-to-air missiles the Soviets' technology level is roughly equal to or slightly better than that of the West. They are the world's leaders in a few significant fields, such as chemical warfare and in some areas of laser research for future "star wars" applications.

Nevertheless, in spite of the several decades of massive investment in indigenous research and development, the prospects are small that the Soviets can reduce their dependence on a large variety of Western products and technology in this decade and the next without allowing the technological gap to widen. The main reasons for this continuing need are endemic to the Soviet system: the lack of adequate incentives, inflexible bureaucratic structures, excessive secrecy, and insularity from the West. Even if there were some major Soviet economic or managerial reforms, *no real lessening of the Soviet dependence on Western innovation is anticipated* as long as the USSR perceives the need for military-technological parity with the West, or the need for superiority.

The impact of this dependence could be even more important in the 1990s than it is today. The USSR has been compelled to follow Western direction in technological change, and thus far it has been able to do this satisfactorily because of a mature technological base. The next decade is less certain for the

Soviets, however, because of new technological leadership that the West has supplied them. Their dependence is essentially for *innovation*—where they will continue to look to the West—not for maintaining *adequacy*, which they have achieved in nearly all important military technologies. *But today's adequacy will be tomorrow's obsolescence if technology fails to keep pace.*

In May 1982 the US Congress was given a report identifying a massive and global Soviet program to acquire Western militarily significant technology.¹ That report described the Soviets' successes in supplementing their military research and manufacturing capabilities and in narrowing the technology gap with the West, thereby eroding the technological superiority on which US and Allied security depends.

The identification of this Soviet program led the West to undertake greater efforts in counterintelligence and export control. Since then, it has become even more evident that the magnitude of the Soviets' collection effort and their ability to assimilate collected equipment and technology are far greater than was previously believed.

This update of the 1982 report defines the scope of the Soviet effort. It outlines how the Soviets go about acquiring Western technology and identifies examples of specific technologies they seek. It highlights details and statistics of Soviet successes—much more detail than could be revealed previously. This information was obtained directly by the United States and Allied countries. Understanding the Soviet effort is critical in designing ways to protect Western technology from being acquired and used against Western security interests.

¹ *Soviet Acquisition of Western Technology*, April 1982, Exhibit No. 1, Hearings Before the Permanent Subcommittee on Investigations of the Committee on Governmental Affairs, United States Senate, Ninety-Seventh Congress, Second Session, 4, 5, 6, 11, and 12 May 1982.

² Western technology (hardware, documents, and know-how) includes that of Japan as well as other Free World countries.

Soviet Motivations

A basic question is why do Soviet weapon designers and Soviet manufacturers need to copy design concepts embodied in Western equipment and associated documents? In general, Soviet weapons have historically reflected a commitment to functional designs that can be easily manufactured in labor-intensive factories and readily maintained in the field with a minimum of technical skill. There has always been a struggle between Soviet design simplicity and technical complexity. Soviet weapon designers have not had to face the competitive pressures that drive Western designers to press the state of the art.

Building on a mature research sector and on lessons learned from past performances of weapons in battle, the Soviets are placing more of a premium on technically complex systems. Western system and equipment characteristics increasingly are used as yardsticks against which Soviet technical capabilities are judged. Every major civilian or military project is compared with the best Western technology before it is approved for development. Once in development, Soviet standards mandate the comparison of the quality and technical level of hardware, at different design stages, with foreign counterparts.

With their access to many details of Western weapons and dual-use equipment designs and concepts, Soviet designers are, in effect, competing with Western designers. That competition, supported and encouraged by the Soviet leadership, is probably pressuring the military research establishment to pay increasing attention to technically complex systems. Countervailing pressures for design simplicity are being applied by the manufacturing sector, which is less responsive in adapting to technological change. All of these forces indicate continuing Soviet programs to acquire Western military and dual-use hardware and technical data.

Overview of Two Soviet Programs

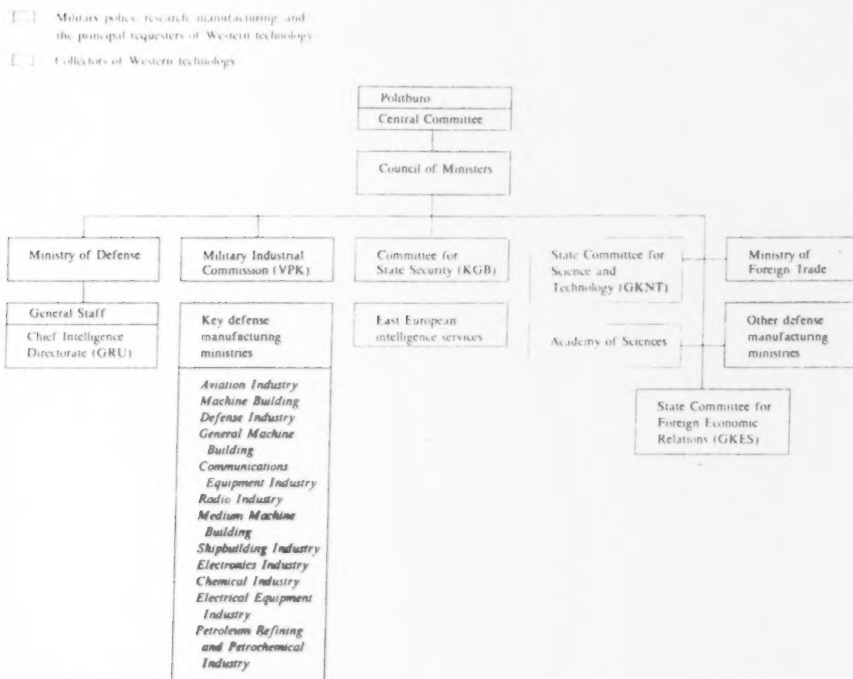
Since 1982 it has become clearer that the Soviets have two programs to acquire Western hardware and documents.

- First, Moscow has a program to raise the technical levels of weapons and military equipment as well as to improve the technical levels of manufacturing processes. This program is managed by the most powerful organization in defense production—the Military Industrial Commission (VPK) of the Presidium of the Council of Ministers (figure 1). Mainly, although not exclusively, through intelligence channels, the VPK seeks one-of-a-kind military and dual-use hardware, blueprints, product samples, and test equipment to improve the technical levels and performance of Soviet weapons, military equipment, and defense manufacturing equipment and reduce any dependency on advanced Western products. This is done in large part by exploiting and adapting design concepts embodied in acquired equipment and associated documents.
- Second, the Ministry of Foreign Trade and Soviet intelligence services administer a trade diversion program to acquire relatively large numbers of dual-use manufacturing and test equipment for direct use in production lines. This program seeks export controlled microelectronics, computer, communications, machining, robotics, diagnostic, and other equipment to increase the throughput of weapon-producing industries.

These two programs, which apparently are administered separately, are the hub of the Soviet effort.

The VPK program is principally, but not exclusively, an industrial security and counterintelligence concern for the West. It involves espionage by hostile intelligence officers, overt collection by Bloc officials, acquisition by scientific exchange program participants, and illegal trade-related activity. The trade diversion

Figure 1
Key Organizations Involved in Managing Military Research and Manufacturing and the Acquisition of Western Technology



The Military Industrial Commission (VPK) coordinates the development of all Soviet weapons as well as the Soviet national-level program to acquire Western technology. The VPK is the most powerful organization in the defense-research establishment, comprising the top executives of the key defense manufacturing ministries (industries). Requests for Western documents and one-of-a-kind hardware from military equipment designers in each of the 12 industries shown above are called requirements (see figure 2).

To satisfy these requirements, the VPK controls a national

fund, amounting to some half a billion rubles each year (roughly \$1.4 billion in 1980 purchase power equivalents). Once approved by the VPK, requirements are selectively levied among the KGB, the GRU, and at least four other national-level collection agencies, as well as surrogates among the East European intelligence services.

The State Committee for Science and Technology (GKNT) acts as a collector and as the central processor for the national-level program. It also monitors the absorption and assimilation of Western technology by the defense industries.

program principally involves export control and international compliance issues. Characteristics of these programs overlap, further complicating the design of adequate countermeasures:

- Both programs sometimes seek the same products.
- Soviet industrial ministries request technology and equipment through both programs.
- The collection channels overlap and in some cases the same Soviet individuals (intelligence officers and others) are involved in each program.

The VPK Program: Raising the Technical Levels of Weapons and Manufacturing Equipment

The VPK includes the top executives of most of the key Soviet defense manufacturing ministries shown in figure 1. Full VPK membership is given to the Ministers of Aviation, Machine Building (projectiles and explosives), Defense Industry (armor and electronics), General Machine Building (strategic missiles and space), Communications Equipment, Radio (radars and large-scale computers), Medium Machine Building (nuclear weapons and high-energy lasers), Shipbuilding, and Electronics. It is a small but powerful group, responsible for centrally overseeing the research, development, and production of all Soviet weapon systems. It coordinates developments between its chief customer, the Ministry of Defense, and the key suppliers, the defense-industrial ministries. As the expeditor for weapons development projects, *it is the principal Soviet military instrument for eliminating or circumventing the inefficiencies characteristic of the Soviet economic system.*

As part of its responsibility to enforce schedules and to ensure that technical and performance specifications are met, the VPK translates requests for Western hardware and documents, principally by the design bureaus of 12 industries (figure 1), into lists of collection requirements. In the late 1970s alone about one-half billion rubles (roughly \$1.4 billion in 1980 purchase power equivalents) each year was reserved for purchases of one-of-a-kind Western hardware and documents.

Three examples of specific requirements from the VPK lists are shown in figure 2. The first deals with the IBM 370 computer, used by the Soviets as the model for production of their own version, "Ryad," which is a copy of the IBM 370 architecture and functions. The second deals with a cruise missile computer. The VPK apparently assigned it a high priority because of major efforts under way at that time to develop long-range strategic cruise missiles, which require large-capacity digital memories for onboard navigation. The Soviets historically have had reliability and other problems in developing such computers. The third example is a US Fairchild Instrument Corporation/Xincom semiconductor memory tester. It is a good example of the one-of-a-kind dual-use product requested and acquired through the VPK program. Design concepts embodied in the hardware and associated documentation of the tester were copied to develop a Soviet counterpart. The original tester also could be used to help copy or reverse-engineer Western integrated circuits.

Requirements for documents alone can command amounts as considerable as hardware; examples include over 50,000 rubles (roughly \$140,000 in 1980 purchase power equivalents) for documents on the US shuttle orbiter control system and over 50,000 rubles for high-energy laser developments. Over 200,000 rubles (\$560,000) was approved for acquiring selected research documents on US antimissile defense concepts.

Each year the VPK publishes a report based on the evaluation of the individual ministries. It includes aggregate statistics on numbers of technical documents and samples (hardware) obtained, gross ruble savings, and the numbers and priority of requirements satisfied. This report is sent to the Chairman of the Presidium of the Council of Ministers and to the Central Committee of the Communist Party. Copies also are sent to headquarters elements of the collection organizations.

Figure 2
Examples of VPK Requirements, Mid 1970s - Early 1980s

Mid 1970s

Requester (responsible for producing mainframe computers)

Desired technology

Organization charged with collection

Origin or location of technology

- 1 Ministry of the Radio Industry
- 2 Technical documentation on IBM 370 computer models 145, 158, 168 and operating system data, not earlier than 1974. Information about new IBM projects
- 3 KGB
- 4 U.S. Documents from the IBM firm

Late 1970s

Joint requirement. Priority code A-I indicates technology needed for potential solutions of a problem in producing a future weapon system

Desired technology

Maximum funds allocated for collection of this item

Organization charged with collection

- 1 Ministries of Aviation, Communications Equipment, and Electronics Industries, A-I, Most Critical
- 2 Electronic components and programing devices for cruise missile digital computer memory. Samples and documents desired
- 3 170,000 rubles
- 4 KGB

Early 1980s

Code B-I indicates substantial reduction in time and expenditure in production of new weapons

Desired technology

Maximum funds allocated for collection of this item

A nonintelligence organization also charged with assisting collection

- 1 Ministry of the Electronics Industry, B-I
- 2 Xicon monitoring and metering equipment for static and functional testing of semiconductor memory units. Sample and documents desired
- 3 4,500,000 rubles
- 4 Ministry of Foreign Trade, KGB

The mid-1970s VPK requirement shown above targets IBM equipment for Soviet military research and development. The Soviets copied the architecture of the IBM 360 and 370 systems to develop their Ryad series of computers. The late 1970s requirement is a very high priority for three reasons: it is identified as "most critical"; it is needed to solve problems in producing a future weapon system; and three ministries would benefit technically, economically, and jointly from its acquisition. The early 1980s requirement, for a Fairchild/Xicon semiconductor memory test system, is a perfect example of the one-of-a-kind dual-use product

(sample) and associated documentation requested for copying as well as for volume purchases for direct use in production lines. This tester was in fact acquired, and design concepts were copied, saving several hundred man-years of Soviet developmental effort.

Soviet requirement data also include the firms and sometimes the names of persons who have the desired hardware and documents. Some 3,000 to 5,000 new, amended, and reapproved requirements for hardware, documents, or both are now issued by the Soviets each year.

Table 1
Summary of Results of the VPK Program,
Late 1970s and Early 1980s

- An average of over 5,000 Soviet military equipment and weapon system research projects per year in the early 1980s benefited from Western hardware and technical documents. Over half of these projects were in the electronics and the armor and electro-optics industries.
- Innovation, new concepts, new directions, higher technical levels of research, accelerated development of more advanced weapons, and the avoidance of major pitfalls are some of the key benefits to Soviet military scientific research projects.
- In the early 1980s more than 3,500 requirements were levied each year for specific Western hardware, documents, or both, with roughly one-third satisfied each year; the other two-thirds still targeted.
- Some half a billion rubles are maintained each year for potential collections against these requirements (roughly \$1.4 billion in 1980 purchase power equivalents).
- During the 10th Five-Year Plan (1976-80), over 3,500 requirements were fully satisfied worldwide—roughly 60 to 70 percent of these being fulfilled by the Soviet intelligence services (the KGB and the GRU) and surrogates among the East European intelligence services. Requirements fully satisfied during the 11th Five-Year Plan will exceed 5,000.
- Of the 3,500 satisfied requirements approximately 5 to 10 percent were judged by the Soviets as the most significant to military research projects. The Soviet intelligence services and surrogates among the East European services fulfilled about 90 percent of these most significant requirements each year.
- About half of all VPK requirements fulfilled in the 10th Five-Year Plan (1976-80) and thus far in the 11th Five-Year Plan (1981-85) were for two industries: electronics and communications equipment.
- About 60 percent of that portion of document and hardware acquisitions considered to be the most significant to the Soviets was of U.S. origin, although not necessarily collected in the United States.
- About 70 percent of the documents and hardware acquired in the 10th and so far in the 11th Five-Year Plans, which were judged by the Soviets to be the most significant to their military research projects, probably were export controlled, embargoed, classified, or under some control by Western governments.
- About 50 percent of the 6,000 to 10,000 pieces of hardware acquired annually and 20 percent of the 100,000 documents acquired annually are used by the Soviets in transferring Western technology into their military research projects.
- In the late 1970s about 700 embargoed dual-use manufacturing, diagnostic instrumentation, and other dual-use products were acquired each year for copying embodied designs, reverse-engineering, and probably for selected direct use as key equipment in Soviet military production lines.
- From 1976 to 1980 the greatest savings in research project costs, almost one-half billion rubles (the 1980 dollar cost of equivalent research activity would be \$800 million), were realized by two ministries—the Ministry of the Defense Industry (armor and electro-optics) and the Ministry of the Aviation Industry. The Soviet manpower equivalence of these savings alone translates roughly into over 100,000 man-years of scientific research. These savings, however, may be biased. The ruble figures probably reflect operating costs—salaries, bonuses, and sometimes savings in elimination of, for example, test range activity, but not capital costs. Although Soviet managers generally tend to inflate savings to enhance their role, the savings estimated in the VPK program appear to be conservative.

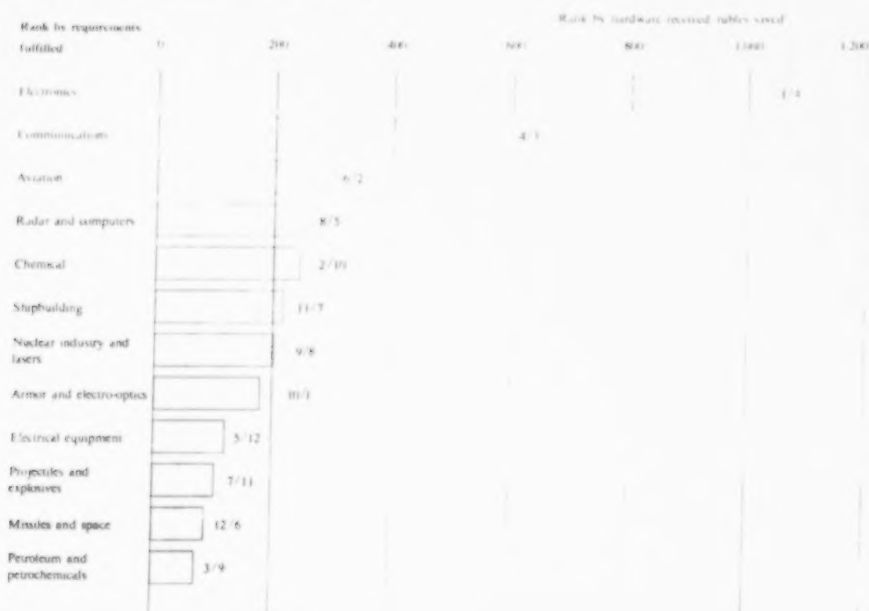
Successes and Benefits

The VPK program is a Soviet success story (table 1). Over 3,500 specific collection requirements for hardware and documents were satisfied for the 12 industrial ministries for just the 10th Five-Year Plan (1976-80). About 50 percent of more than 30,000 pieces of Western one-of-a-kind military and dual-use hardware and about 20 percent of over 400,000 technical documents collected worldwide in response to these requirements were used to improve the technical performance of very large numbers of Soviet military equipment and weapon systems. The benefits and distribution by industry of the fulfilled requirements are shown in figure 3.

According to the Soviets, about one-third of the VPK requirements are totally or partially fulfilled annually, strongly suggesting that Western industrial security, counterintelligence, export controls, and other efforts do have an effect. But each year the number of VPK requirements grows by about 15 percent. This is a strong indication that the expanding Soviet military industrial program continues to rely on Western technical solutions and advances. It also indicates increased collection success and user expectation.

Figure 3
Rank Ordering of Soviet Industries by VPK Requirements Fulfilled,
by Hardware Received, and by Rubles Saved, 1976-80

Number of requirements for Western documents, hardware, or both



About 50 percent of the VPK requirements that were fulfilled during the 10th Five-Year Plan for Western hardware and documents were satisfied on behalf of two defense industries—electronics and communications. These are key areas where the Soviets' need for militarily significant technology and the West's need for better controls are greatest.

The four industries receiving the most Western military hardware and dual-use products were electronics (over 6,000 pieces of equipment, a large percentage involving microelectronics), chemical (almost 4,000 pieces), petroleum/petrochemicals (over 1,500), and communications (over 1,500), ranked in that order.

The top four industries saving the most rubles in research project development costs in terms of manpower and other resources were the armor and electro-optics industry (almost 20 percent of the 1.4 billion rubles saved in research project costs) and the aviation, communications, and electronics industries. These four industries consistently appear to be the Soviet leaders in requesting, absorbing, and generally getting the most use out of Western hardware and documents. In some cases, such as in the armor area, the Soviets are using Western technology not to catch up, but to enhance a capability that already is equal to or better than that of the West.

Five Years Gained in Developing the Next Generation of Fire-Control Radars for Soviet Fighter Aircraft

The Soviets estimated that by using documentation on the US F-18 fighter their aviation and radar industries saved some five years of development time and 35 million rubles (the 1980 dollar cost of equivalent research activity would be \$55 million) in project manpower and other developmental costs. The manpower portion of these savings probably represents over a thousand man-years of scientific research effort and one of the most successful individual exploitations ever of Western technology.

The documentation on the F-18 fire-control radar served as the technical basis for new lookdown/shoot-down engagement radars for the latest generation of Soviet fighters. US methods of component design, fast-Fourier-transform algorithms, terrain mapping functions, and real-time resolution-enhancement techniques were cited as key elements incorporated into the Soviet counterpart.

Moreover, F-18 and F-14 documentation served as the impetus for two long-term research projects to design from scratch a new radar-guided air-to-air missile system. The documentation also was instrumental in formulating concrete specifications to develop new Soviet airborne radar countermeasures equipment against the F-18 and F-14.

Significant acquisitions of Western technology include documents on fire-control radars for the F-14, F-15, and F-18 and documents on US ballistic missile defense concepts (table 2). In terms of broad defense programs, Soviet strategic missiles, air defense, tactical forces, and weapons manufacturing capabilities have benefited the most from the VPK program. The annex has several hundred examples of specific Soviet weapons and military equipment benefiting from Western technology.

Western technology collected each year in the late 1970s and early 1980s aided Soviet military industries

principally in four ways. Ranked by priority, the VPK program:

- Redirected Soviet technical approaches in about a hundred projects each year for ongoing weapon systems and key military equipment, or resulted in the improvement of the weapons manufacturing processes.
- Initiated several hundred new short-term and long-term research projects each year on technical topics that had not been under consideration.
- Raised the technical levels of several thousand developmental projects each year involving military equipment, manufacturing, or design procedures.
- Eliminated or shortened phases of more than a thousand military research projects each year. This contributed to a substantial reduction—in a number of cases, two to three years—in time needed to produce more technically advanced weapons and military equipment.

The benefits vary from project to project. Western technology has assisted the Soviets in reducing their weapon acquisition cycle by up to two years for research projects in an advanced status. Acquisition of Western documents, for example, helped the Soviets cut by two years the time spent on researching a new generation of fuzes for munitions with a large kill radius and for self-aiming aviation cluster munitions. For projects in an earlier stage of research, the cycle can be reduced as much as five years. This considerably shrinks overall research time, reduces the amount of resources devoted to weapon system research, and allows diversion of those resources to other Soviet military research projects.

A wide range of Soviet data demonstrates that benefits to military research projects have increased significantly from the late 1970s to the early 1980s (figure 4) and have applied to thousands of research projects in all key defense industries. Measured in rubles, the

Table 2
Selected Worldwide Soviet Acquisitions,
Military Applications, and Collectors of
Western Documents, Military Hardware,
and Dual-Use Products

Western Technology Acquired	Soviet Application/Improvement	Collector
Strategic Missiles		
Documents on Cruise Missiles Using Radar Terrain Maps	Cruise Missile Guidance	KGB, GRU
Documents on Heat Shielding Material for Reentry Vehicles	Ballistic Missile Warheads	KGB, GRU
Documents on Ballistic Missile Defense Concepts	Future Ballistic Missile Defense	KGB, GRU
Air Defense		
F-14, F-15, F-18 Documents on Fire-Control Radars	Four Soviet Fighter Aircraft	KGB, GRU
US Phoenix Missile Documents	Semiactive Air-to-Air Missile	KGB
Infrared Radiometer	Reduced Infrared Signature Aircraft	KGB
Fiber-Optics Systems	Aircraft and Missile Onboard Communication Systems	GRU
Air-to-Air Missile Documents	New Air-to-Air Missile	GRU
General Purpose Naval And Antisubmarine Warfare		
Aircraft Carrier Steam Catapult Design Documents	Aircraft Launching System for New Aircraft Carrier	GRU
US MK 48 Torpedo Documents	Antisubmarine Torpedo	GRU
Gamma Radiation Radiometer	Nuclear Submarine Wake-Detection Trailing System	GRU
Acoustic Spectrum Analyzer	Submarine Quieting	GRU
Powerful Acoustical Vibrator	Submarine and Ship Sonars	GKNT, GKES, Academy of Sciences
Space and Antisatellite Weapons		
Documents on Systems and Heat Shielding of the U.S. Space Shuttle	Reusable Space System	KGB
Transit Naval Navigation Hardware	First-Generation Space-Based Naval Radionavigation System	GRU
US NAVSTAR Navigation System Documents	Digital Signal Processing for Counterpart Satellite System	Others
High-Energy Chemical Laser Documents	Space-Based Laser Weapon	KGB
System 101 Processing Equipment	Digital Processing and Video for Space-Based Reconnaissance, Missile, Bomb, and Remotely Piloted Vehicle Command Guidance	Others
Tactical Forces		
International Radar Conference Documents	Synthetic Aperture Radar for Aircraft Detection	GRU
Ground Support Equipment for US TOW Anti-tank Guided Missile	Countermeasure System	GRU
US Copperhead Laser-Guided Artillery Documents	New Laser-Guided Artillery Shell	GRU
Laser-Guided Missile Documents	Portable Antiaircraft System	KGB
Infrared Imaging Subsystem Designs	Fire-Control System of Future Tank	KGB
Millimeter Radar Documents	Antitank Missile	GRU
Pressure Measuring Instruments and Documents	Advanced Modeling for New Artillery Projectiles	KGB, GRU

Table 2
Selected Worldwide Soviet Acquisitions,
Military Applications, and Collectors of
Western Documents, Military Hardware,
and Dual-Use Products (continued)

Western Technology Acquired	Soviet Application/Improvement	Collector
Manufacturing and Technology		
Kevlar 49 Fiber Documents for Missiles	Improved Missile Development	KGB, GRU
Complete Set of Manufacturing Equipment for Printed Circuit Boards	Copied for 11 Production Assembly Lines for Strategic Missile, Armor and Electro-Optics, and Radar Industries	Ministry of Foreign Trade
DTS-70 Printed Circuit Board Testing System	Military Microelectronic Production System	KGB
Fiberglass Manufacturing Technology	High-Pressure Airtanks for Submarines	KGB, GRU, Ministry of Foreign Trade
Computer Disk Memory Systems	Military Ryad Series Disk Drives	KGB
Bubble Memory Technology	Tactical Missile Onboard Memories	Others
Technical Documents on Tests of Cold-Rolled Steel	Improved Structural Protection of Warships	KGB
High-Accuracy Three-Dimension Coordinate Measuring Machine	Copied for Several Industries	Ministry of Foreign Trade, GKNT, GKLS, Academy of Sciences

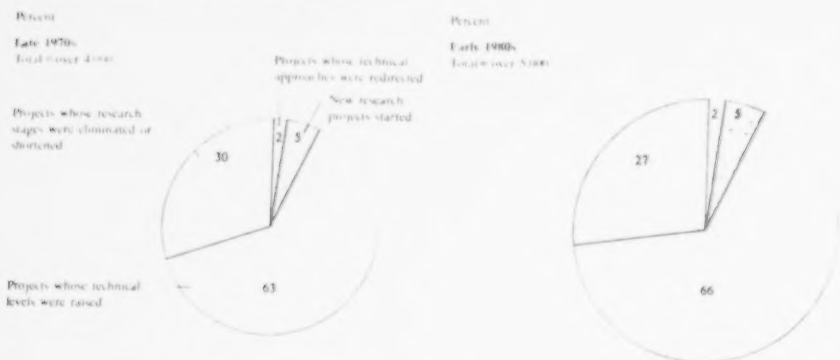
savings doubled between 1976 and 1980 (figure 5) and still are expanding in the 11th Five-Year Plan. The statistics on benefits also point to a massive diffusion of Western technology into Soviet military equipment and weapons. Figure 6 shows how the more than 5,000 military research projects benefiting in the early 1980s were distributed by industry. According to these rough indicators, the electronics, armor and electro-optics, and aviation industries are benefiting the most from Western technology.

Overall, the acquisition of Western technology permits the Soviets to field more sophisticated, versatile, and effective weapons. The basic time for fielding these advanced Soviet weapons, though, remains about the same. It also provides new military capabilities and allows additional resources to be used for the development of additional advanced weapons concepts. The acquisitions also serve to lighten somewhat the burden of continuing growth in Soviet research and defense spending.

Soviet copying and reverse-engineering of Western military and dual-use equipment are major characteristics of the VPK program. Indeed, the majority of VPK requirements for "technology" appears to be for hardware only. In the late 1970s alone, the Soviets acquired about 700 embargoed one-of-a-kind dual-use products each year principally in the area of manufacturing, inspection, instrumentation and test equipment, including key microelectronics production and test equipment. These products were used for making Soviet counterparts or possibly were for use as key manufacturing or test equipment that completed process lines. Examples included computer-controlled integrated circuit testers, aircraft engine vibration control systems, and narrow-band analyzers for submarine quieting.

These practices indicate Soviet deficiencies are in the design, testing, and integration of technologically advanced military systems, not in basic research and applied science. They fall short in the engineering of a

Figure 4
Technical and Time Benefits to Thousands of Soviet Military Research Projects From Western Technology



The benefits to the Soviet military research establishment from acquisitions of Western technology are far greater than previously believed. Virtually every Soviet long- and short-term research project for military systems—well over 4,000 in the late 1970s and well over 5,000 in the early 1980s—is benefiting from the documents and hardware of at least a dozen Western countries. (See figure 6 for a breakout of how these projects were distributed by industry.)

Projects in the VPK program are divided into the four major categories shown above. Projects with redirected technical approaches and new projects represent the most significant benefits through adoption of innovations and new directions for military systems. Major pitfalls are thus avoided. Projects whose technical levels were raised and those whose stages were eliminated or shortened represent improvements in the military state of the art of the Soviet Union and an acceleration in the time when more advanced subsystems are ready for new and future weapons.

device, technologically advanced by Western standards, into a useful piece of militarily applicable hardware producible in large quantities.

The profile of the VPK program (as well as the trade diversion program) can be used to better define militarily critical technologies as well as better ways to counter Western losses. Both appear principally aimed at acquiring products and technical data. Both show that protecting dual-use products is just as important as protecting the related design know-how. Equipment sales divorced from the transfer of know-how do have long-term significance for the Soviets. The evidence indicates that equipment transfers, both large batch acquisitions and individual samples used

for copying embodied design concepts and for reverse-engineering, generally outstrip acquisitions of "technology" in quantity and are of more immediate value to the Soviets.

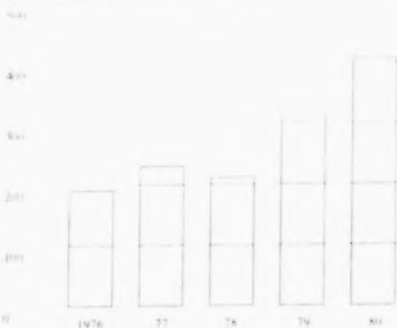
VPK Collectors and Sources

Analysis of reliable data indicates that in the VPK program the Soviet Bloc intelligence services (the Soviet Committee for State Security (KGB), the Chief Intelligence Directorate of the Soviet General Staff (GRU), and their surrogates among the East European intelligence services) are the collectors most often tasked and the most successful.

Figure 5
Ruble Savings From Only a Part of Soviet
Western Technology Acquisitions

Million Rubles

At least 1.1 billion rubles in savings on selected projects during the fifth five-year plan



The above savings generally are conservative estimates by the Soviets resulting from the elimination of stages of military research and design projects, the reduction in time to carry them out, and the adoption of new technical approaches. The savings are not cumulative. That is, a 20-million-ruble annual saving from the acquisition of US and other Western fiberglass plastics production technology used in manufacturing high-pressure air tanks for submarines was counted for one year only, the year of acquisition.

Roughly 400 million rubles (\$640 million) were saved in 1980 for only a portion of the Western technology acquired. Most of these savings were in long-term military research projects for weapons of the late 1980s and early 1990s. They therefore were most likely given in terms of manpower savings. By this measure several tens of thousands of Soviet man-years of scientific research effort were saved in 1980.

During the late 1970s and early 1980s the Soviet intelligence services acquired, through their own efforts and those of the surrogate East Europeans, about 60 to 70 percent of all materials collected in the overall VPK program each year (figure 7). More important, these intelligence services were involved in collecting worldwide about 90 percent of the information judged by Moscow as most significant and used

Microelectronics Reverse-Engineering

Soviet collectors have easily acquired many types of Western integrated circuits (ICs) for reverse engineering. Indeed, most Soviet ICs can be traced to a Western original. One of the best examples is their KR580IK80A microprocessor, which is a modified version of the Intel Corporation 8080A 8-bit microprocessor used in many US military systems. In this case, the Soviets even copied the equivalent US part number to avoid confusion (note the KR580IK80A versus the US 8080A).

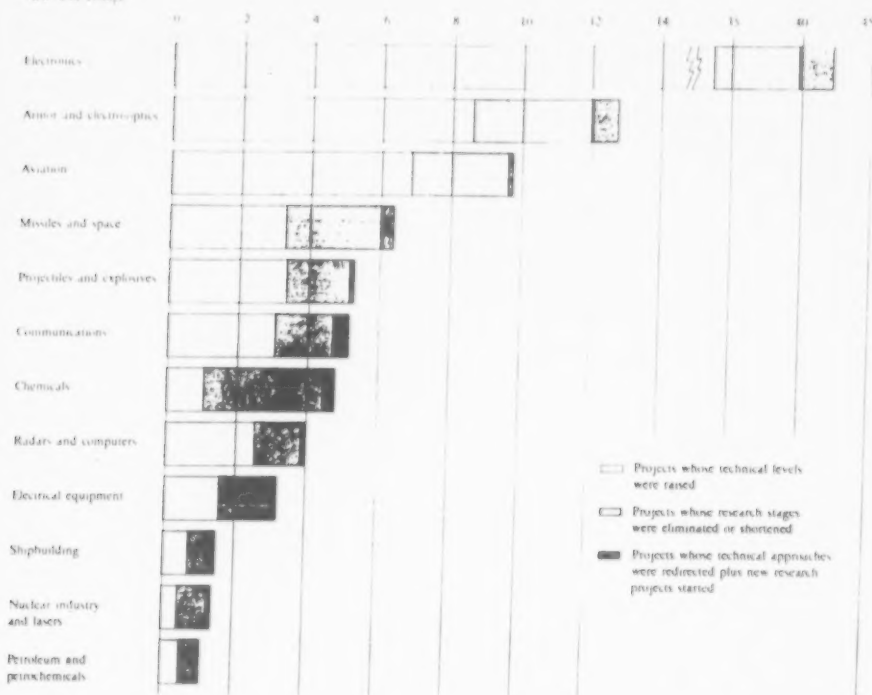
Furthermore, the evidence clearly shows that Soviet ICs known as LOGIKA-2 and series 133/155 were directly copied from the Texas Instruments 5400/7400 family. These ICs have been used in Soviet strategic and tactical military systems since the mid-1970s to provide important qualitative improvements. The more advanced Western fabrication equipment acquired by the Soviets in recent years has been used to produce copies of sophisticated Western ICs for their latest generation of weapons. If the Soviets succeed in acquiring the next generation of materials, equipment, and parts, their military capabilities will continue to improve in the area that is the major strength of the West—quality.

The USSR's practice of reverse-engineering, however, may soon run into problems. As US and Japanese ICs become more complex, reverse-engineering will require: (a) tracking hundreds of thousands of connections, (b) understanding how they all fit together, and (c) mastering the complex processing steps used in production. Thus, copying such circuits will require not only much more sophisticated Western equipment but also much more time to duplicate each circuit, causing their overall microelectronics gap with the West to widen.

Figure 6
Rank Ordering of Industries by Soviet Military Research Projects
Benefiting From Western Technology, Early 1980s

Average yearly percent of all research projects that benefited

Scale: scale change



The assimilation of Western technology into Soviet industries conducting military research is considerable. The greatest beneficiaries were the electronics and armor and electro-optics industries, which accounted for over 50 percent (equating thousands) of all military research projects benefiting from Western technology in the early 1980s.

The general distribution points out the rather broad effect that Western documents and hardware have just on raising the technical levels of Soviet military research. This is particularly true for the top three industries, where advanced technology and innovative design concepts play a significant role in weapon developments.

Figure 7
Soviet Military Requirements Satisfied by Principal Collection Agencies in
the Overall VPK Program, Late 1970s and Early 1980s

Percent of requirements fully satisfied



The distribution shows that the KGB and the GRU (and their surrogates among the East European intelligence services) were the main collectors in the overall VPK program. They were involved in satisfying roughly 60 to 70 percent of all VPK requirements completely fulfilled during the late 1970s and early 1980s. (Percentages do not add to 100 because several agencies contributed to fulfilling some of the same requirements.)

Although not evident from the above data, both the KGB and the GRU significantly increased their efforts in the early 1980s

because the average number of requirements fulfilled so far in the early 1980s (11th Five-Year Plan) increased about 50 percent over the late 1970s.

The State Committee for Science and Technology (GKNT) and associated collectors surprisingly were the third main collecting entity, satisfying a relatively large percentage. Figure 8 shows, however, that they were credited with satisfying about 5 percent of a selected subset of acquisitions, those judged by the Soviets to be the most significant to their military research projects.

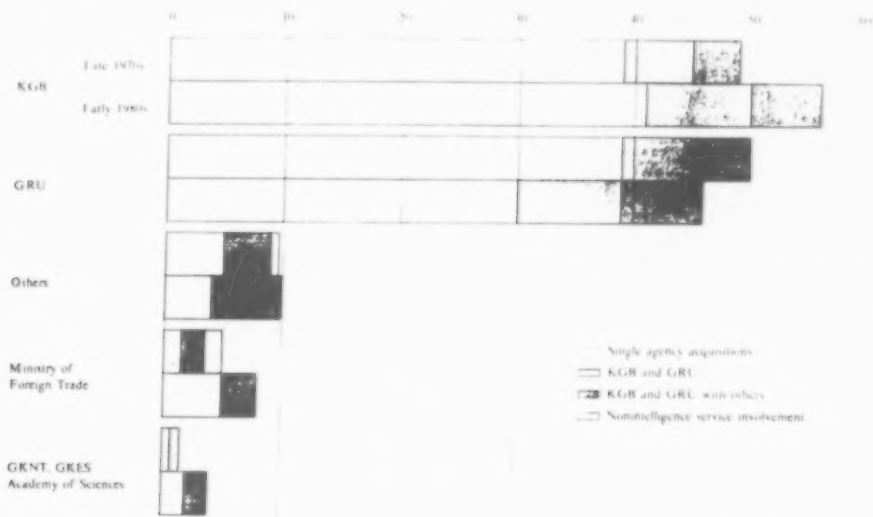
in many hundreds of military research projects (figure 8). Both the KGB and the GRU levy some of the VPK requirements on surrogates among the East European counterpart services. The KGB probably owes a higher percentage of its collection to these East European civilian intelligence services than does the GRU to its East European counterparts. All use human assets worldwide.

Coordination with the East European services is conducted through the liaison functions at both KGB and GRU headquarters as well as through KGB and GRU advisers in the various Warsaw Pact intelligence services. Since the mid-to-late 1970s the surrogates

Figure 8
Most Significant Acquisitions Satisfied by Principal Collection
Agencies, Late 1970s and Early 1980s

The KGB and GRU were involved in collecting about 70 percent of the Western acquisitions judged by the Soviets to be the most important to their military development projects (late 1970s and early 1980s).

Average yearly percent of acquisitions judged by the Soviets to be the most significant



In contrast to figure 7, which shows results for the overall VPK program, this figure shows the main collection agencies for a selected subset of acquisitions—those judged by the Soviets to be the most significant to their military research projects for the periods indicated. The Soviet intelligence services and surrogates are the key collectors in the VPK program. Their approximate 90-percent association with the most significant acquisitions (100 percent less the percentages from the categories labeled "nonintelli-

gence service involvement" and nonintelligence "single agency acquisitions") indicates the West has a counterintelligence and industrial security challenge.

About 60 percent of the acquisitions were of US origin (but not necessarily acquired in the United States). The several hundred acquisitions for each period in the statistics above are a small subset of those acquisitions shown in the statistics for the overall VPK program.

among these services have played a major role in the overall VPK collection program, often in return for Soviet economic concessions to their countries. The intelligence services of East Germany, Poland, and Hungary are among the most successful in acquiring Western classified data and export controlled products.

During the late 1970s and early 1980s the GRU probably fulfilled two to 10 times as many VPK requirements as the KGB for the important defense-industrial ministries of:

- Communications Equipment Industry (defense and satellite communications systems)—10 times.
- Machine Building (projectiles and explosives)—five times.
- General Machine Building (strategic missiles and space vehicles)—five times.
- Medium Machine Building (nuclear industry and lasers)—two times.
- Radio Industry (radars and large-scale computers)—two times.

The GRU probably is more successful because of its overall scientific orientation, its bolder operational style, its increased collection opportunities that reflect a wider variety of technology-related cover positions overseas, and its clearer understanding of collection objectives.

The KGB. The First Chief Directorate (foreign intelligence) of the KGB conducts science and technology collection operations through its headquarters component known as Directorate T. Directorate T probably has approximately 1,000 officers, with nearly 300 on foreign assignment. The officers on foreign assignment are organized into components known as Line X, and most of them are scientific specialists by both academic and professional training. The largest KGB complements are probably in Bonn, Cologne, London, New York, Tokyo, and Vienna. (Paris was one of the largest until mass expulsions in 1983.)

Line X officers abroad typically occupy such cover positions as science attaches in a Soviet embassy or equivalent positions in the commercial or economic sections of Soviet missions or an international organization. Other preferred cover positions for these officers are as officials in various Soviet trade missions or

as members of scientific or other academic exchanges. Such positions provide easy access to the types of information targeted by the VPK or to foreign personnel who could provide such access. Cover as an "acceptance engineer" at a company with a Soviet contract is also a preferred way to acquire proprietary secrets.

The GRU. The Chief Intelligence Directorate of the Soviet General Staff has emphasized the collection of military scientific data since the earliest days of Soviet military intelligence. Unlike the KGB, the GRU has no headquarters component specifically charged with managing scientific collections; rather, this function is part of the overall responsibilities of four geographic operational directorates. GRU headquarters does, however, have a scientific information analytical directorate that supports scientific collection efforts.

The GRU does not have a separate cadre of career scientific specialists in the field; instead, most GRU officers have technical backgrounds and education as well as years in a military specialization. Approximately 1,500 GRU officers serve outside the USSR. For all of them, scientific collection is an integral part of their responsibilities and a high priority.

The GRU probably has a higher percentage than the KGB of officers with cover positions that provide more access to Western scientific targets and more methods of transporting export controlled products and technical data to the Soviet Union. Some of these positions similar to those of the KGB's scientific specialists are in scientific or commercial sections of Soviet missions or international organizations and various foreign trade offices. In addition, the GRU officers often have positions in Aeroflot (the Soviet airline) and Morflot (the Soviet merchant marine). All Soviet military attaches are GRU officers, of course. The GRU, however, does not seem to use cover positions in academic and technical exchanges to the same extent as does the KGB.

Selected Sources.

US Defense Contractors. Moscow views US and Allied defense contractors with their proprietary and government security controls as difficult targets. Accordingly, the KGB, the GRU, and their surrogates among the East Europeans are the collectors primarily tasked to operate against them. Of the top 100 US defense contractors for 1983, nine of the 10 most frequently cited by the Soviets as sources of needed technology were in the aerospace industry (table 3). The next group most frequently identified was the chemical and petrochemicals industries.

Although the Soviet Bloc intelligence services are the primary collectors of scientific and technological information in the VPK program, it is estimated that about 90 percent of the roughly 100,000 documents acquired each year worldwide are unclassified. About 10 to 20 percent of these unclassified documents are either under proprietary corporate, export, or other government controls. The Soviet intelligence services and their surrogates among the East European services probably provide Moscow with about 10,000 technology-transfer-related classified documents each year from the West. Analysis and operational observations indicate that only a small percentage of these are collected through Soviet intelligence service operations in the United States.

Analysis of hostile intelligence activities indicate that in recent years the surrogates among the East European intelligence services possibly have been more successful than Soviet intelligence against priority defense technologies in the United States. East European services have had considerable success not only in the United States, but elsewhere because:

- They are generally perceived as a lesser threat than the Soviets.
 - They often may not be perceived as operating in a surrogate role.
 - In some countries, including the United States, they operate under less severe travel restrictions.
 - Some, especially the Czechoslovaks and the East Germans, probably find it easier to operate in the West European cultural and commercial climate.
- Recent examples of Soviet Bloc espionage operations against US and other Western defense contractor targets are presented in table 4.

As a result of various coproduction arrangements and contract bidding among foreign firms, the availability of much US defense contractor technology overseas in US subsidiaries and in other firms has increased. This enables Soviet Bloc intelligence to seek priority US technologies in many countries around the world.

Commercial Data Bases. Unclassified technical documents from all countries—including engineering analyses and research results—are targeted by Soviet intelligence and other collectors because of their value to Soviet engineers seeking creative designs and alternative engineering approaches. For example, from the mid-1970s to the early 1980s, NASA documents and NASA-funded contractor studies provided the Soviets with their most important source of unclassified material in the aerospace area. Soviet interests in NASA activities focused on virtually all aspects of the space shuttle. Documents acquired dealt with airframe designs (including computer programs on design analysis, materials, flight computer systems, and propulsion systems). This information allowed Soviet military industries to save years of scientific research and testing time as well as millions of rubles as they developed their own very similar space shuttle vehicle.

The individual abstracts or references in government and commercial data bases are unclassified, but some of the information, taken in the aggregate, may reveal sensitive information concerning US strategic capabilities and vulnerabilities. Numerous unclassified US Department of Defense and contractor documents are sought by the Soviets from the Commerce Department's National Technical Information Service. Documents dealing with design, evaluation, and testing of US weapon systems—the Sidewinder air-to-air missile, the F-15, the Redeye shoulder-fired anti-aircraft missile, the B-52, and others—are in the data base.

The public and private document clearinghouses—established to efficiently index and disseminate the results of government and government-sponsored military-related technical research—are a fertile ground for KGB, GRU, and other collectors. In recent years, the growing use of electronic data bases has provided the Soviets with an even more efficient means of identifying and procuring such unclassified technical information needed by Soviet designers.

Table 3
Rank Ordering of Top 100 US Defense Contractors of 1983
Compared With Their Rank Ordering by Approximate
Frequency of Soviet Identification for Needed Technology.
Selected Periods in Late 1970s and Early 1980s

Dollar Value Rank	Company	Soviet Identification Rank	Dollar Value Rank	Company	Soviet Identification Rank
1	General Dynamics	8	40	Soberco	
2	McDonnell Douglas	5	41	Pan American World Airways	32
3	Rockwell International	4	42	Harris	32
4	General Electric	1	43	Todd Shipyard	
5	Boeing	2	44	Edison	31
6	Lockheed	3	45	Goodyear Tire & Rubber (Goodyear Aerospace)	17
7	United Technologies (Pratt & Whitney)	11	46	Guam Oil & Refining	
8	Tenneco	31	47	Atlantic Richfield (ARCO)	31
9	Hughes Aircraft	15	48	Sanders Assoc.	32
10	Raytheon	23	49	Waterman Marine	
11	Grumman	21	50	Signal Co. (Garrett)	19
12	Martin Marietta	7	51	Royal Dutch Shell Group	23
13	Liton Industries	20	52	Motorola	25
14	Westinghouse Electric	6	53	North American Philips (Magnavox)	27
15	IBM	19	54	E Systems	
16	LTV	24	55	Hercules	24
17	FMC	10	56	Morrison Knudsen	
18	RCA	27	57	Mobil	29
19	TRW	26	58	Ogden	
20	Sperry	17	59	Morton Thiokol	19
21	Honeywell	12	60	Gould	32
22	Ford Motor (Ford Aerospace)	22	61	Congoleum	
23	General Motors	14	62	Caterpillar Tractor	25
24	AT&T	*	63	Emerson Electric	10
25	EXXON	28	64	Control Data	30
26	Northrop	19	65	Standard Oil of Indiana	30
27	Allied (Bendix)	9	66	Coastal	
28	Maersk Line Ltd		67	Penn Central	
29	AVCO	16	68	Aerospace	24
30	GTE	32	69	Fairchild Industries	25
31	Textron	32	70	HBBH (Hughes Air/Bendix/Holmes)	
32	Singer	23	71	MIT	13
33	Texas Instruments	16	72	Burroughs	24
34	Hughes Helicopters		73	Pacific Resources	
35	General Tire & Rubber (Aerojet)	15	74	Johns Hopkins University	32
36	ITT	31	75	Oshkosh Truck	
37	Standard Oil of California	30	76	Gulf Oil	30
38	Teledyne	27	77	Ashland Oil	31
39	Motor Oil Hellas	—			

* An ellipsis indicates that no targeting for specific technology or hardware was noted during the sampling period to rank these companies; this is not a complete indication that there was no

hostile targeting of those companies. Other companies not among the top 100 are known to have been identified by the Soviets for needed technology.

Table 3 (continued)

Dollar Value Rank	Company	Soviet Identification Rank	Dollar Value Rank	Company	Soviet Identification Rank
78	Mitre		90	Gulf States Oil & Refining	18
79	Rolls Royce Ltd	30	91	SAI	
80	Du Pont	10	92	Sunstrand	
81	Williams International	32	93	Kaman	
82	Reynolds Industry	29	94	Kuwait Petroleum	
83	Duchowson Thrall Group (Chamberlain)	29	95	Harco	
84	NI Industry (Norris)		96	Lear Siegler	30
85	Sam Whan		97	Varian Associates	29
86	Computer Science		98	Southern Union	
87	Xerox		99	Cubic	32
88	Brunswick	30	100	Digital Equipment	29
89	Hewlett Packard	27			

In the VPK program the Soviets issue general guidance to collectors to acquire selected information on, for example, a system (the US Space Shuttle) or a subsystem/technology (electro-optical guidance techniques of the US Maverick or TOW missiles). They follow up this guidance with specific "requirements" and allocate funds for particular pieces of hardware (MK 46 torpedo: more than 1,250,000 rubles (more than \$3.5 million), or a U-2 aircraft radio: more than 50,000 rubles), or a document (K-250K-D gyroscope: more than 20,000 rubles), or a dual-use product (excimer laser: more than 20,000 rubles). The government agencies, companies, or

contractors that have such information or products are specified. The rank ordering in this table is representative of the number of times a company was specifically identified as a source of needed information and hardware during a selected period. Duplicate numbers beginning with Soviet rank 15 indicate ties in the number of times identified. The data available give a rough indication of large Soviet ongoing needs for innovation in specific aerospace design concepts and hardware as well as for chemical technology and manufacturing equipment.

One solution appears to be to thoroughly screen all candidate data base entries and keep sensitive government information out of the public data bases or limit its availability to US and Allied defense contractors. Unfortunately, this may also inhibit the United States' own national research effort by restricting the ready availability of such information.

Scientific Conferences. Collection of information from professional and academic conferences on applied science and technology has also contributed to the success of the Soviet program. At least 35 conferences worldwide were identified in the VPK program as potential sources of specific data in the late 1970s to assist in solving military research problems. These included conferences on materials, missiles, engines, lasers, computers, marine technology, space, microelectronics, chemical engineering, radars, armaments,

and optical communications. The Soviets judged some of the data acquired from these conferences to be among the most significant contributing to their military projects. Conferences in the late 1970s and early 1980s (and Soviet evaluation of the data) ranked in order of significance were the:

- International Radar Conference (improved circuit designs for synthetic aperture satellite radars and aircraft over-the-horizon radars)—Collector: GRU.
- Conference on Integrated Optics (assisted in identifying ways to produce a qualitatively new Soviet category of integrated optical devices for fiber-optics communications)—Collector: KGB.

Table 4
Selected Successful Soviet Bloc Espionage
Operations Against US and Other Western
Defense Contractor Targets

Agent	Hostile Service	Dates Operated	Access	Impact
William Bell	SB Poland	1978-81	US citizen. Radar specialist, Hughes Aircraft Company. Worked on advanced US radar systems, experimental radar systems, and air-to-air and surface-to-air missiles	Saved the Soviets several tens of millions of rubles in research efforts, advanced Soviet technology by about five years by permitting them to implement proven design concepts
Pierre Bourdieu	KGB	1971-83	French engineer	Currently undergoing trial
Dieter Gerhardt	GRU	1964-83	South African naval officer who had attended the British Royal Navy College and served at the Embassy in London. Later was a scientific research staff officer	Passed information on various anti-aircraft missiles
James Harper	SB Poland	1975-81	US citizen. Electronics engineer. Through his girlfriend/wife he had access to Ballistic Missile Defense Advanced Technology Center contracts at Systems Control Inc., California	Provided dozens of documents on potential US ballistic missile defense programs, ICBM basing modes, and related technology. Afforded Soviets a unique look at potential US future systems concepts
Manfred Rutsch	KGB	1967-84	West German. Head of the Planning Department of the aviation firm Messerschmitt-Bölkow-Blohm (MBB)	Passed information on the "Tornado" aircraft produced by the European Panavia consortium

- Conference of the Aerospace and Electronic Systems Society of IEEE (helped technical solutions to existing problems and improved the characteristics of a low-altitude target detection radar)—Collector: KGB.
- International Conference on Radar (assisted development of signal processing for passive jamming suppression methods and for radars to detect distant aircraft targets)—Collector: GRU.
- International Conference on Nontraditional Energy Transformation Systems (refined directions of research on space-based nuclear reactors)—Collector: KGB.
- Conference on Millimetric and Submillimetric Equipment (assisted in design solutions for millimeter wave proximity fuzes)—Collector: KGB.
- Symposium on Solar Energy Conversion (increased efficiency and decreased costs for electron beam deposition of coatings on solar components for space vehicles)—Collector: GRU.

According to Soviet estimates, the information obtained by the KGB and GRU from these conferences alone, particularly the first three, produced savings of millions of rubles in long-range military research projects—savings roughly equivalent to 100 man-years of effort. The fact that numerous professional and scientific conferences are specifically identified as valuable sources in advance by the VPK indicates their exploitation is not fortuitous, but carefully planned.

Ministry of Foreign Trade. The Soviet Ministry of Foreign Trade administers and operates hundreds of foreign trade organizations and firms around the world. This global presence and the ministry's official duties related to technology and transportation make it a practical cover organization for hundreds of KGB and GRU officers involved in technology acquisition efforts. These officers conduct overt and covert collection operations and channel the results through their respective intelligence organizations for accountability in the VPK system.

In addition to providing cover for intelligence officers, the Ministry of Foreign Trade is also a major independent collector in the VPK program and attempts to pursue most of its assigned VPK requirements on an overt basis. During the late 1970s and early 1980s, it helped fulfill about 15 percent of all fully satisfied VPK requirements (figure 7). More important, it fulfilled 9 percent of those satisfied requirements identified as "most critical." Also during that period its role was specialized, focusing largely on the acquisition of microelectronics manufacturing equipment and communications dual-use products. In view of this, it is not surprising that throughout the 10th and thus far in the 11th Five-Year Plans the Ministry of Foreign Trade was assigned to collect the largest percentage of samples (a yearly average of approximately 30 percent) as opposed to documents. The ministry also has a major role in the illegal trade activities discussed later in this report.

Overt and Academic-Related Collectors. The Soviet Academy of Sciences is another collector in the VPK program. So too are the State Committee for Science and Technology (GKNT) and the State Committee for Foreign Economic Relations (GKES). Although these organizations are involved principally in overt collection of information for nondefense industries, they also are involved in worldwide overt collection of information and technical data in response to specific VPK tasking for military research projects. Sometimes they are tasked jointly with the KGB and other collectors to satisfy these requirements.

These three collection agencies, especially the Academy of Sciences and the GKNT, operate in the West in a milieu of scientific, academic, and business conferences. They and others help send approximately 2,000 Soviet Bloc citizens to the United States each year in a nontourist status. A portion of those visiting probably respond to high-priority VPK requirements. Additionally, many Soviet scientific personnel have been co-opted to some degree by the Soviet intelligence services to provide assistance to VPK and other collection activities.

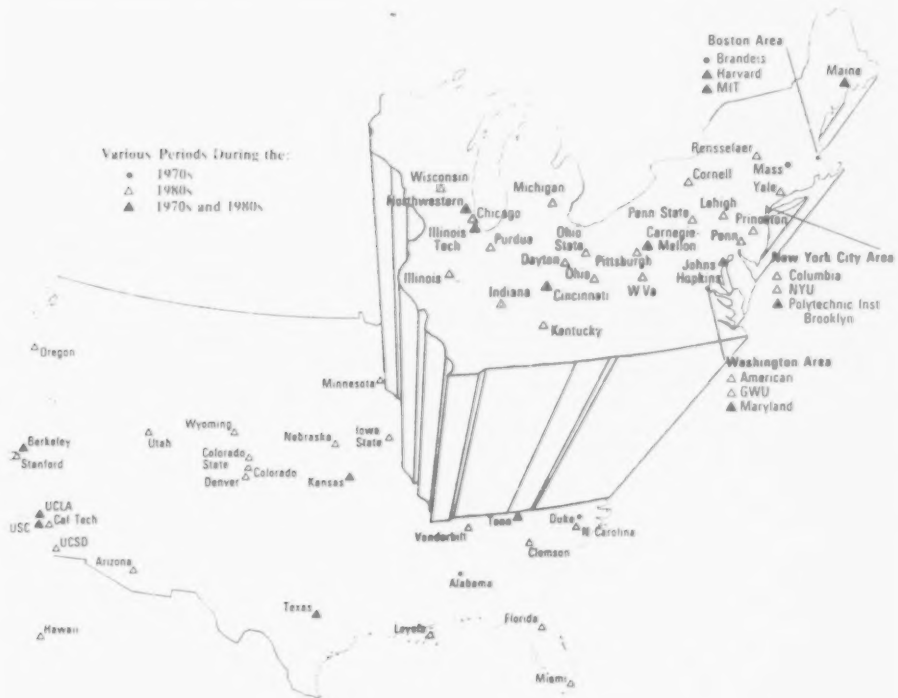
During the late 1970s and early 1980s, Soviet scientific collection directives identified numerous universities worldwide that had needed information. Perhaps as a vote of confidence in US academic research, the

number of US academic centers targeted has increased from about 20 to over 60 during this period. The universities cited as sources for both applied military-related technology and for civilian scientific data include some of the finest in the United States (figures 9 and 10). The majority of information sought at universities for the VPK program was applied technology and engineering, and not fundamental or basic research.

Carnegie-Mellon, Cincinnati, Kentucky, Massachusetts Institute of Technology (MIT), Michigan, and Wisconsin were among those universities (as well as defense contractors) identified in the VPK program as sources for information on new high-strength, high-temperature alloys, such as titanium, on lightweight structural alloys, and on powder metal processing. California Institute of Technology, Harvard, and MIT were targeted for techniques, methodologies, and results for evaluation of strategic concepts on space, aviation, and missile systems. California Institute of Technology and MIT were also cited as sources for transonic, supersonic, and hypersonic aerodynamic research, as were the Polytechnic Institute of New York (Brooklyn), Princeton, and Stanford. Kansas, MIT, Ohio State, and Penn State were identified for data relating to electrohydraulic control systems applicable to aircraft, helicopters, and the Soviet version of the US Space Shuttle. Research applicable to future high-energy laser and particle beam weapons was sought from MIT, Denver, and Princeton.

As illustrated in figure 7, the three overt and academic-related collectors rank third in the overall VPK program, satisfying about 20 percent of those requirements that were completely fulfilled by all collectors. On the other hand, figure 8 shows that while their overall contribution to Soviet military research collection is large in volume they accounted for about 5 percent of the technology judged most significant by the Soviets during the late 1970s and early 1980s. Acquisitions included information on developing and manufacturing composite materials for missiles and space systems; automated control designs for highly

Figure 9
Selected US Universities Identified by the
Soviets as Sources of Needed Applied Technology

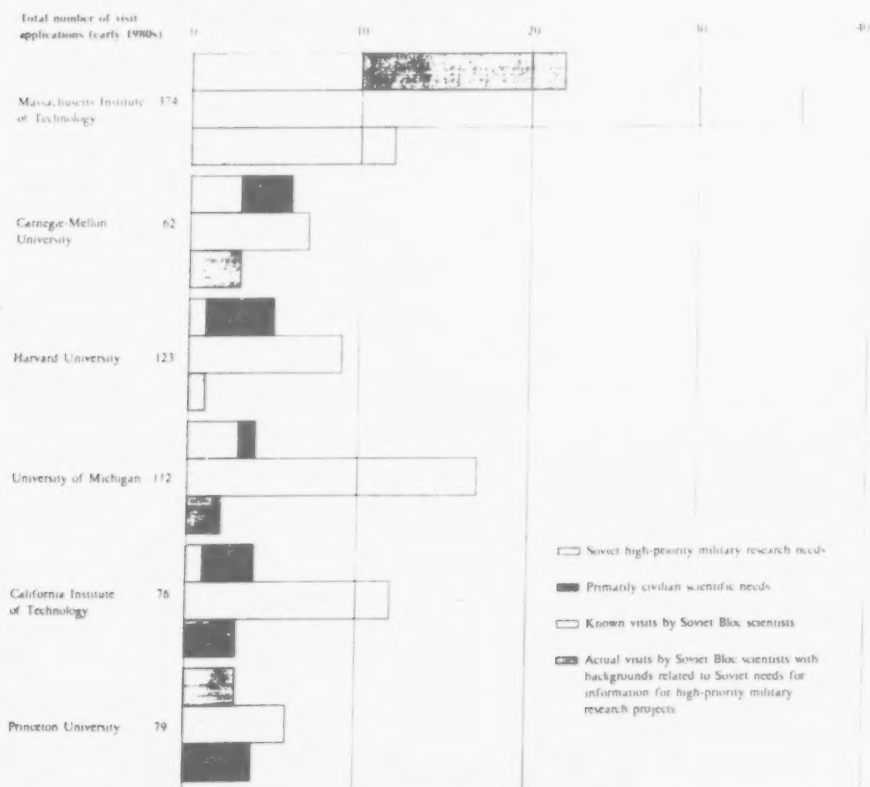


Over the past decade or so about 40 percent of the US universities shown above were identified in the VPK program as sources of applied science and technology principally for Soviet military aerospace developments. The State Committee for Science and Technology also issues requirements against US universities, but principally for fundamental research for both Soviet military- and civilian-related science developments.

Known Soviet collectors at US and other Western universities include those from the intelligence services, scientists within the Academy of Sciences, and scientists from the State Committee for Science and Technology who come to study in the United States. Many of these collectors are also involved in spotting and assessing US scientists for potential recruitment as agents.

Figure 10
Soviet Needs for Applied Science and Technology From Selected US
Universities Compared With Number of Visiting Soviet Bloc
Scientists, Early 1980s

Number of different Soviet needs or number of Soviet Bloc visitors



The above US universities, as well as Stanford, California at Berkeley, Cornell, and the Illinois Institute of Technology, were identified by the Soviets more often than others during the early 1980s as sources of technology needed for high-priority military and civilian research projects. There is a rough correlation between

the number of VPK-identified military research needs and the number of visiting Soviet Bloc scientists with backgrounds related to those technical areas. There is, however, little data indicating that specific scientists were tasked to acquire information for Soviet military research projects.

accurate coordinate-measuring machines for quality control of weapon components and subassemblies; information on automatic control systems for optimizing rolling mills; acoustical data for developing low-frequency sonars for submarines; and information on aerial photography, magnetic recording systems, and lasers.

The Trade Diversion Program: Building and Expanding Industries

Numerous sources and data indicate the existence of a program separate and administratively different from the VPK program, but comparable to it in scope. This second program is characterized not by requirements for one-of-a-kind equipment, but by illegal and legal acquisitions of relatively large numbers of dual-use products for Soviet military programs. These products are requested by the defense industries for direct use in manufacturing lines to increase the throughput or output of plants or for designing future equipment. Often manufacturing cells, complete production lines, or even entire plants are sought from the West. Much of this equipment and technology falls into the areas of computers, microelectronics, numerically controlled machine tools, robotics, and material fabrication.

This second Soviet program is probably less structured than that of the VPK, but just as rigidly monitored because of the large amounts of hard currency necessary. This is the Soviet program that appears to be largely responsible for orchestrating and managing most of the worldwide trade diversions, particularly in the areas of computers and microelectronics.

Computers and Microelectronics

Major Soviet diversion efforts are targeted at microelectronics fabrication equipment and computers; nearly half of detected trade diversions fall into these categories. Using unscrupulous Western traders who employ license falsifications, deceptive equipment descriptions, dummy firms, false end users for illegal purchases, and smuggling, as well as assistance from intelligence operations, the USSR has acquired at a minimum several thousand pieces of major microelectronics fabrication equipment during the last 10 years

(figure 11). The equipment acquired through these efforts is largely responsible for the significant advances the Soviet microelectronics industry has made thus far, advances that have reduced the overall Western lead in microelectronics from 10 to 12 years in the mid-1970s to four to six years today. Western microelectronics manufacturing equipment has been applied throughout the entire production process from materials preparation to the final testing apparatus needed for sophisticated production lines. In fact, total design and fabrication lines may have been acquired from single diversion operations.

Volume purchases, legal and illegal, characterize the second Soviet program. Examples of microelectronic products that the Soviets illegally acquired from the United States, Japan, and other countries in one year during the early 1970s include 30 sophisticated crystal pullers, 99 diffusion furnaces, three integrated circuit (IC) testers, and 10 mask aligners. The next year they diverted 24 crystal pullers, 64 diffusion furnaces, three photorepeaters, three pattern generators, three epitaxial reactors, and an IC tester. Such purchases have been used directly in assembly lines for military production. In the future, large quantities of test equipment for sophisticated very-large-scale integrated (VLSI) circuits will be a major target.

Volume purchases of materials are also part of the second program. Before 1980, the Soviets purchased hundreds of tons of electronics-grade silicon (not under export controls at that time). This is the raw material needed for integrated circuits for both military and civilian uses. The silicon originated primarily from the United States, West Germany, and Japan. After the sale of electronics-grade silicon to the USSR was restricted, Soviet acquisitions continued through worldwide diversions. Future acquisitions of silicon very likely will begin to concentrate on the very high-quality silicon produced in the United States, West Germany, and Japan for use in producing VLSI circuits.

Figure 11
Soviet Acquisitions of More Than 2,500 Pieces of Western
Microelectronics Manufacturing Equipment, Early 1970s - Early 1980s

Number of major pieces of dual-use equipment



Over the past few years the Soviets have virtually completed their entire building construction program for manufacturing military microelectronics components. To equip many of these buildings with advanced production equipment, they acquired more than 2,500 pieces of major Western controlled and uncontrolled microelectronics fabrication equipment covering the entire spectrum of manufacturing operations. They acquired this equipment from the

United States, Japan, and Europe, and diverted it through many parts of the world. Years of illegal acquisitions of large numbers of dual-use products through worldwide trade diversions have enabled the Soviets to narrow the microelectronics technological gap with the West from 10 to 12 years a decade ago to about four to six years today.

Integrated circuits intended for direct use in Soviet systems are usually acquired from the United States and Japan by trading companies in various parts of the world, and then shipped in huge numbers to Soviet and East European destinations. As many as 100 million circuits may be shipped in this manner every year.

In direct monetary value, volume acquisitions through illegal trade probably far exceed those of the VPK-directed effort. The Soviets have diverted thousands of different items of high technology in the past two decades, totaling perhaps billions of dollars in hardware value alone. Most of these illegal acquisitions have been facilitated or conducted autonomously by unscrupulous traders. The manufacturers of high-technology production equipment have rarely been knowingly involved in diversions; indeed, they have often been victims.

The Soviets have arranged most diversions through Europe, but their use of Asia as a diversion route is growing. Over 300 firms in more than 30 countries have been identified as engaged in diversions. Many more companies probably exist—some involved in only a few operations and quitting or disbanding before becoming well known or vulnerable.

Participants in the Second Program

The Soviet intelligence services and the Ministry of Foreign Trade are involved in various ways with most of this illegal trade, some of which is conducted through ostensibly normal trade channels. The Ministry of Foreign Trade and industrial ministries operate a large network of foreign trade organizations, commercial offices, joint companies, and foreign procurement offices whose staffs know the hardware markets

and act as ready contacts for technology traders and diverters who may volunteer their services to the Soviets. They are also quite adept at spotting opportunities for diversions and obtaining controlled Western products. These functions are performed by legitimate Soviet trade officials, intelligence officers under trade cover, and trade officials working directly for intelligence officers. Many of the 141 Soviets expelled from 25 countries during 1983 were assigned in some capacity with the Ministry of Foreign Trade.

The Soviet illegal trade program appears to be administered and managed in the trade ministry's Main Engineering and Technical Administration (GITU). Although it is a component of the ministry, GITU is staffed and managed largely by intelligence officers, organized into separate KGB and GRU groups by their respective headquarters. Its subordinate Department for Technical Cooperation with Foreign Countries is similarly staffed and managed. GITU reportedly exercises some supervision over all technical Soviet foreign trade organizations and all technical joint trading companies.

The GITU staff has grown from about 12 in 1970 to about 70 in 1983. Its subordinate Department for Technical Cooperation with Foreign Countries numbers over a hundred. The intelligence officers assigned to GITU, and to the Ministry of Foreign Trade in general, blend into a number of roles in carrying out their assignments. Soviet intelligence service personnel (as well as their East European surrogates) are in embassy commercial sections, trade missions, consulates, commercial organizations, and joint stock companies in the West. Moreover, intelligence officers have been identified as employees of foreign trade organizations in the Soviet Union and their offices elsewhere in the world.

Although GITU is largely a Soviet intelligence service domain (with the GRU probably filling most cover positions), that does not mean that all trade diversion operations are conceived of and supervised on a daily basis by intelligence officers. Some evidence indicates that the GRU is involved with more trade diversion operations than the KGB, but it is unknown if this is by design or rather a practical manifestation of the high proportion of foreign-trade-related GRU cover

positions. Legitimate Soviet trade officers in Warsaw Pact countries are also involved in trade diversions, and not merely as intelligence co-optees.

Use of Diverters-for-Hire

One of the most effective and secure trade diversion methods used by the Soviets is the contract or broker diverter. Contractor diverters work for set or negotiated fees; broker diverters receive a commission, usually a percentage of the equipment purchase price. Both are individual traders or businessmen with some affiliation to high-technology manufacturing or trade circles. They are very knowledgeable of high-technology markets and product availability and either volunteer their services to the Soviets or are spotted by Soviet assets in the West or in the USSR. Some have global expertise and connections; some specialize in operations in a few countries or a few technology product lines. In some cases, the Soviets have used diverters with known track records of trading almost exclusively, or in high volume, with the East Europeans.

Whether a volunteer or selected by the Soviets, a potential contract or broker diverter is generally screened to determine the scope and depth of his contacts, range of trade abilities, and access to pertinent high-technology markets and manufacturers. In some cases such an assessment may be a rigorous one, in others perhaps only superficial. A most important quality, however, is the ability to deliver goods as scheduled, for close to the agreed prices, without complications or risks to the Soviet customer.

Although many Soviet intelligence officers are involved with negotiating and contracting with diverters, this procedure is not a classic intelligence operation and is analogous to an intelligence "recruitment" in timing only. The diverter does not accept intelligence discipline as would an "agent." Indeed it makes little or no difference to diverters if they are dealing with intelligence principals as opposed to trade officials, save for the need to avoid the suspicions of espionage. Additionally, most diverters probably do not enter into a permanent relationship with

their Soviet principals, but rather into one that is only for the duration of one or a series of formal or informal contracts for specific products or services.

Although there are dissimilarities among contract or broker diversion operations, there are some characteristics that seem consistent:

- The Soviets incur minimal, if any, risk or legal liability. Many, if not most, contracts are scheduled, briefed, signed, or verbally agreed to in Moscow or another convenient denied area or are obscured by the conduct of legitimate overt business.
- Little or no contact is maintained with the diverter. This seems especially true of diverters operating on behalf of a Soviet intelligence service.
- For the most part, the diverter has autonomy in operational decisions, including arranging front organizations, product availability, purchase, shipping, storage, and delivery. At times diverters also perform initial professional setup, testing, and servicing of equipment. In so doing they rely exclusively on professional overt and covert colleagues.
- Fees are negotiable. The Soviets will pay lucrative, but not outrageous prices. Fees can also be raised during the course of the diversion if more costs or risks are entailed by the diverter.
- Payment is generally through letter of credit deposited by the Soviets to the diverter's bank account.

The use of contract or broker trade diverter operations by the Soviets minimizes, if not obviates, the risk to their intelligence residences and trade officials while simultaneously assuring the application of professional business and trade diversion know-how to the technology acquisition task. Because of the low Soviet profile in these operations, more vigorous law and trade control enforcement may be more effective in stemming contract diversion than counterintelligence responses, although both efforts clearly have an important role.

Contract Trade Diverter: Richard Mueller

Richard Mueller, a West German citizen, is wanted in that country and in the United States for many cases involving illegal exports of COCOM-controlled computers, microelectronics, and other products to the USSR. His involvement with illegal technology acquisition on behalf of the Soviet Bloc dates back to the early 1970s. By 1978 Mueller's deals were made almost exclusively with Soviet foreign trade officials; some of these officials were intelligence officers under cover. For his network, Mueller uses numerous dummy and front firms and meets with his Soviet principals in Moscow to mask his activities. At one time he had more than 75 firms operating in Austria, France, Switzerland, the United Kingdom, the United States, and West Germany.

Between 1978 and 1983 Mueller delivered to the Soviets advanced computers, peripherals, and microelectronics manufacturing equipment worth at least several tens of millions of dollars. Perhaps Mueller's best known operation was his attempted diversion to the USSR in late 1983 of seven large US Digital Equipment Corporation VAX computers and related hardware and software. The VAX series of super minicomputers are valuable to the Soviets because of their computer-aided design (CAD) applications for microelectronics fabrication. This equipment was purchased in the United States for Mueller's dummy firms in South Africa and West Germany. Much of it was seized by Sweden and West Germany enroute to the Soviet Union.

Other Diversion Methods

Soviet foreign trade officers also attempt to make small Western firms dependent on Soviet legal orders over a period of years. For such firms, who are not contract or broker trade diverters, the occasional

Soviet request for illegal purchases or a support role in a larger illegal trade operation appears difficult if not impossible to refuse. Indeed, some firms may even be drawn into complicity or support for Soviet diversion operations unwittingly or gradually. It has long been a concern in the West to limit the expansion of Soviet foreign trade organizations abroad because of the opportunities they offer for this type of diversion activity. Although it has become more difficult for the Soviets to conduct this type of activity, Moscow continues to keep these diversion channels open.

The Soviets also acquire technology to modernize manufacturing through another mechanism, the so-called acceptance engineers. They are assigned as quality inspectors on a long-term basis, usually a year or longer, to Western firms engaged in manufacturing items for Soviet end users. These may be intelligence officers or Soviet personnel who are co-opted to steal proprietary production or technical data. They also use this opportunity for agent spotting for immediate or future exploitation. Use of acceptance engineers for collection is especially practical in countries with advanced manufacturing technology. Companies in Western Europe and in Japan have been targeted with this approach.

Prospects for Stemming Losses

The West needs to better organize to protect its military, industrial, commercial, and scientific communities, keeping two objectives clearly in view:

- First, it must seek to maintain its technological lead over the Soviets in vital design and manufacturing know-how.
- Second, it should strictly control key dual-use products, including computer-aided design and manufacturing systems, large volumes of automatic test and inspection equipment, and, most important, the automatic test equipment that can alleviate acute Soviet qualitative deficiencies in the manufacturing of weapons and military equipment.

The ultimate goal should be to deny the Soviets access to Western documents, hardware, and technologies that will accelerate their military programs and simultaneously cause Western defense efforts and costs

to increase. Soviet dependence on the West for technological innovation in military research and development and in modernizing Soviet production industries is broad. It is particularly important in microelectronics and computers, and extends to key areas that include command, control, communications, and intelligence (C³I), computer-integrated design and manufacturing, and materials fabrication (table 5).

The United States and many other Western governments have begun to better recognize that their military and dual-use equipment and technologies have been improving the performance capabilities and manufacturing standards of Soviet weapons. Several positive steps have already been taken by the United States, Western Europe, and Japan, including selective expansion of the COCOM¹ list to deny the Soviets key items. Although the emphasis has varied among countries, most have undertaken individual programs to stem diversions and losses that include some of the following:

- Increased awareness programs, highlighting the magnitude, tactics, and detriment to Western security of the Soviet efforts.
- Improved export control efforts and enhanced law enforcement capabilities.
- Counterintelligence programs specifically targeting the technology transfer activities of hostile intelligence services and their Soviet co-optees and agents.
- Industrial security awareness programs conducted jointly by counterintelligence services, security services, and corporate security professionals.
- Soviet Bloc scientific visitor controls designed to screen high security risk visitors and, in the process, strengthen the spirit and integrity of academic exchanges.
- Better review of government open publications in the prepublication or predistribution phases.

In general, a more difficult operational environment for Soviet intelligence has resulted worldwide.

¹ The Coordinating Committee (COCOM) was established in 1949 to serve as the forum for Western efforts to develop a system of strategic export controls. It is composed of the United States, the United Kingdom, Turkey, Portugal, Norway, the Netherlands, Luxembourg, Japan, Italy, Greece, France, the Federal Republic of Germany, Denmark, Canada, and Belgium.

Table 5
Examples of Dual-Use Equipment and Technology
Likely To Be Targeted by the Soviets

Microelectronics

- Advanced Integrated Circuits
 - GaAs Devices
 - Memories
 - Microprocessors and Peripherals
 - Very-High-Speed Integrated Circuit (VHSIC) Devices
- Automatic Integrated Circuit and Printed Circuit Board Testers
- Chemical Vapor Deposition (CVD) Equipment, Especially Metal-Organic CVD Systems
- Computer-Aided Design (CAD) Systems
- Integrated Optics
- Ion-Beam and Plasma Etchers
- Ion-Implantation Equipment
- Lithography Equipment, Especially Electron-beam, Ion-beam, and X-ray Systems
- Molecular Beam Epitaxy (MBE) Systems
- Semiconductors
 - III-V and II-VI Compounds
 - Heteroepitaxial Materials
 - Specialized Crystal Pullers
 - Quality Silicon for Very-Large-Scale Integrated (VLSI) Circuits

Computers

- Array-Transform Processors
- Artificial Intelligence Systems
- Data Display Equipment
- High-Density Disk Storage Systems
- Internal Memories
- Software Development Systems
- Stand-Alone Mainframe Computers
- Supercomputers
- Superminicomputers

Command, Control, Communications, and Intelligence (C³I)

- C³I Software
- Computer Networking Systems
- Telecommunications
 - Fiber-Optics Transmission Systems
 - Digital Switching Systems
 - High-Speed Modems
 - Satellite Communications Systems
 - Terminal Displays

Computer-Integrated Design and Manufacturing

- Computer-Aided Design Software, Methods, and Equipment
- Computer-Aided Manufacturing (CAM) Software
- Computer Numerical Controls for Metalworking Machines
- Coordinate Measuring Machines
- Finite Element Analysis
- Flexible Manufacturing Systems (FMS)
- Plant Control Software
- Robotics

Material Fabrication

- Metals and Alloys
- Composites
 - High-Strength Fibers and Filaments
 - Carbon-Carbon Manufacturing
- Ceramics
- Materials Processing
 - High Temperature Resistant Coatings
 - Isostatic Presses
 - Lasers for Surface Conditioning and Material Processing
 - Material Joining and Bonding Equipment
 - Nondestructive Test and Evaluation Equipment
 - Precision Shapers and Formers
 - Vacuum Furnaces, Including Those for Single Crystal Growth

The worldwide diffusion of advanced products and high technology, however, clearly has increased Soviet collection opportunities. To take advantage of this, the Soviets can be expected to intensify operational acquisition efforts by:

- Expanding their use of contract diverters on a global basis.
- Increasing their dependence on surrogates among the East European intelligence services; increasing use of client states such as Libya, Vietnam, and North Korea.

- Increasing their exploitation of any vulnerable US and Western defense weapon system coproduction arrangements in Allied countries.
- Relying more on third-country espionage operations targeting US personnel and technology (mostly handling covert assets in areas outside the United States).
- Exploiting Third World trade entities dealing with US high technology (the Soviets contend that corporations, officials, and security services in those countries can be easily victimized).

- * Attempting broader online access to US and other Western data base systems directly from the Soviet Union.

For effective countermeasures to keep pace with the evolving Soviet acquisition programs, in particular the highly effective operations of the KGB, the GRU, their surrogates among the East Europeans as well as unscrupulous traders, the West should accurately anticipate Soviet tactics. Western countries should continue to improve and modify their responses. In particular, the West needs to improve and refine its knowledge of Soviet military-technical needs and factor this knowledge into meaningful and practical, multilateral export control lists. Most important, however, must be increased multinational coordination of Western programs—for example, a systematic program among the Western customs services aimed at preventing the illegal export and diversion of militarily significant equipment in the face of what clearly will be a geographically expanding Soviet acquisition threat.

Much can be done to stem losses because much is known about Soviet efforts; it is not an insurmountable problem. But the Soviets' appetite for Western technology will continue to be voracious. They will continue to exploit any weaknesses in Western export controls, as well as policy differences among the COCOM countries, to acquire the technologies needed by their military programs for the late 1980s and beyond.

This effort is more difficult and costly for them than at any time in the past. The stakes are high and the Soviets know it; they will devote whatever resources and manpower are required to fulfill their most critical military collection requirements. The West can do no less if it is to succeed in protecting itself as well as frustrating their efforts. All in the West—governments and private industries—will need to participate.

Annex

Several Hundred Examples of Soviet Military Equipment and Weapons Benefiting From Western Technology and Products

There are hundreds of examples of Soviet military equipment and weapons of the 1980s and 1990s that have benefited or will benefit from the technologies and products of at least a dozen different Western countries. New and advanced technical directions will be incorporated into some of the weapon systems, subsystems, and equipment in each industrial area given below. The equipment in many projects will have their technical levels raised or project completion dates shortened principally because of the copying of design concepts embodied in Western technical documents, one-of-a-kind military hardware, and dual-use products.

Aviation	Four New Fighter Aircraft New Tactical Fighter of the 1990s A Supersonic Aircraft Ground Attack Aircraft Airborne Command Post Reduced-Infrared-Signature Aircraft Four Transport Aircraft	Reusable Space Shuttle Air-to-Air Missile (US Phoenix-Like) Fire-Control System for Three Fighters Gas Turbine Engine Ramjet Engine
Projectiles and Explosives	100-mm and 152-mm High-Explosive Shells 203-mm Artillery Shell Sabot Design for Armor-Piercing Tank Round Armor-Piercing Tungsten Penetrator Shell 23-mm Gun Aviation Cluster Bomb Remote Mining Shell Delivered by Artillery, Rockets, and Aircraft Large Caliber Artillery Shell Casing Small Caliber Ammunitions	Noise-Detonated Fuze Microelectronic Radio Fuze Millimeter-Wave Proximity Fuze High-Efficiency Proximity Fuze for Mass Munitions Antisubmarine Torpedo Antisubmarine Missile Munitions Testing Equipment Thermal Decoy Target Protective Blast Structure Solid Propellant Unmanned Target Plane Equipment
Armor and Electro-Optics	Space-Based Photoreconnaissance System Infrared Space Reconnaissance System Space-Based Missile Launch Detection System Space-Based Infrared Image Processor Synthetic Aperture Radar for Space Reconnaissance	T-55 Tank T-64 Tank T-64A Tank T-64B Tank T-72 Tank T-80 Tank 125-mm Tank Gun Industrial Gas Laser

	Aerial Frame Camera High-Altitude Aerial Camera Coordinate Measuring Machine Portable Antiaircraft Missile System Advanced Night Vision Device Small-Arms Night Sight Holographic Fire-Control System Laser-Guided Artillery Shell Laser Gyro Optical Computer for Tactical Ballistic Missile Diamond Turning Device for Mirrors for Future Laser Weapons	Laser Rangefinder Antitank Missile Countermeasure Against U.S. Antitank Guided Missile Automatic Gun Barrel New Artillery Gun Barrel Sniper Rifle and Machinegun High-Strength Gun Barrel from Electroslag Steel Automated Rolling Mill for Military Production
Missiles and Space	A New ICBM A New SLBM Maneuvering Reentry Vehicle (MaRV) Strategic Cruise Missile Reusable Space System (Shuttle) Navigation Satellites Manned Space-Based Orbital Station Reentry Vehicle	Carbon-Carbon Nosecone for Reentry Vehicle Missile Motor Case Material (Based on DuPont Kevlar 49) Surface-to-Air Missile Missile Fuel Tank Cryptographic System Telemetry System
Communications	Aircraft-to-Submarine Communications System High-Altitude Video Reconnaissance System Video Processor for Space Reconnaissance Reconnaissance Radio Receiver Strategic Aircraft and Cruise Missile Communication System Fiber-Optics Communications System Electronic Countermeasure Station Signals Intelligence Equipment	Narrow-Band Signal Analyzer Cryptographic System Scrambler Magnetic Recorder Fiber-Optical Cable Microcomputer for Communications Programmable Oscilloscope Digital Processor Printed Circuit Board Production Equipment for Communications Correctable Aerial Bomb Remotely Piloted Vehicle Electronic Page Teleprinter
Radars and Computers	ABM Radar System Design Space-Based Oceanographic Radar Three-Dimensional Phased-Array Radar Over-the-Horizon Radar Shortwave-Band Aircraft Radar High-Capacity Computer	Disk Drives for Ryad Computer Computer Software BESM-6 Computer Magnetic-Bubble Computer for Onboard Missile Computer Matrix Processor

Nuclear and High-Energy Lasers	Nuclear Weapons Safety System	Space-Based Microprocessor for a Detector
	Space-Based Nuclear Reactor	Radiation Detector
	Nuclear Reactors	Airborne Military High-Power Carbon Dioxide (CO ₂) and Carbon Monoxide (CO) Laser Weapon
	Naval Nuclear Reactor	High-Power Gas Dynamic Laser
	Water-Cooled Power Reactor	Space-Based High-Energy Chemical Laser Weapon
	Process for Reactor-Grade Zirconium	
	High-Sensitivity Mass Spectrometer for Uranium Enrichment	
	Isotope Separation Process	
Shipbuilding	New Aircraft Carrier Catapults for High-Performance Airplanes	Magnetometer
	New Submarine	Surface Warship
	Submarine Quieting Equipment and Techniques	Warship-Based Multitarget Radar Fire-Control System
	Antisubmarine Torpedo	Sonar System for Nuclear Submarine
	Telecontrolled Torpedo	Sonar for Surface Ship
	Torpedo Missile	Sonar for Ships and Helicopters
	Laser Submarine Wake-Detection System	Sonobuoy
	Radioactive Submarine Wake- Detection System	Radiowave Underwater Communica- tion System for Diver-Scouts
	Hydrophone for Aircraft-to-Submarine Communications	Ship Demagnetizer
		Gyrohorizoncompass for Naval Ships
		Naval Gun
Electronics and Microelectronics	Photolithography System	Charge Coupled Devices
	Photomask Equipment	Traveling Wave Tube for Military Satellite Communications
	Microelectronics Tester (Fairchild Corporation SENTRY-7 Design)	Space-Based Laser Communication System
	LSI IC Circuit Mask Fabricator	High-Power Microwave Tube for Onboard Radar Against Low- Flying Targets
	Microelectronics for Onboard Weapon Systems	Laser Communication, Detection, and Ranging System (Hughes Aircraft Company 3800 Design)
	Large-Scale Integrated Circuit Tester	Infrared TV System
	Microprocessor (Motorola MC 10800 Series Design)	MIG Aircraft Centimeter Waveband Radar with Onboard Digital Processing
	16-Bit Microcomputer	Compact Analog-Digital Converter
	Computers (Digital Equipment Corporation PDP Series Design)	Quartz Resonator
	Micro- and Mini-computers for Military Purposes (AM 2900, LSI-11M, PDP 11/70 and REDAC Designs and Hardware)	Crystal Grower
	Memories for Onboard Radar Fire Control Systems	Power Generator
	Computer Memories	Communication and Telemetry System
	New Semiconductor Thyristor for Military Equipment	Microwave Generator

Chemicals

Hybrid Ramjet Engine for Cruise Missile
 Solid Rocket Propellant for Strategic Missile
 Polyethylene Production System
 Color Aerial Photographic Film
 Photographic Film for Air and Space Reconnaissance
 Photographic Film for Space Reconnaissance (Kodak 3414 Film)
 Antistatic Photoreconnaissance Film
 Low-Density Polyethylene
 Photoresist System for Microelectronic Photolithography

Polyamide Composite Materials for Aircraft and Tank Industries
 Carbon Fiber Production for Aerospace Applications
 Radiation Hardening Paint for Radio-electronic Equipment
 Bonding Material for Spacecraft
 Ion-Exchange Resins
 Laser Systems for Remote Chemical/Biological Reconnaissance
 Fillers for Deep Sea Vehicles
 New Gas Mask

Electrical Equipment

Space-Based Turbogenerator
 Tank-Mounted Infrared System
 Sodium-Sulfur Battery for Missiles, Space, Tanks, and Submarines
 Electric Step-Motors for Aviation Weapon Systems

Power Sources for Missile Installations
 Space-Based Solar Power Cells
 Spacecraft Temperature Control System
 Ship Electrical Supply System
 Batteries for Naval Ships

Petroleum and Petrochemicals

New Fuel for Strategic Cruise Missiles
 New Jet Engine Fuel
 Polyurethane Binders for Solid Rocket Fuels
 New Zeolite Catalyst for Motor Fuels
 Synthetic Motor Oil for Tanks in Arctic Areas (Mobil Oil Company)
 Synthetic Lubricant for Aerospace Equipment
 Radiation-Resistant Additives to Lubricants for Space
 New Lubricant-Coolant for Motor Vehicles

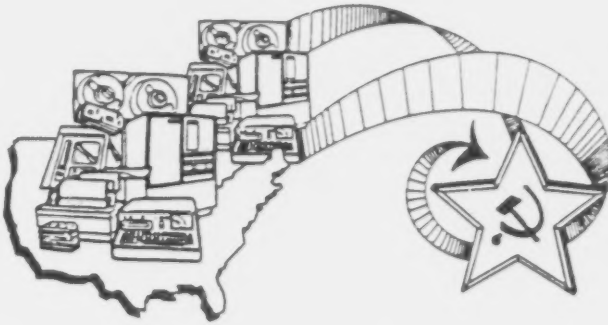
Rubberized Fabric Inflated Seal for Supersonic Military Aircraft
 Industrial Rubber for Aerospace and Armored Vehicles
 Industrial Rubber Seals
 High- and Low-Temperature Fluoroelastomer for Aerospace and Armored Vehicles
 Improved Protective Gear for Astronauts and Pilots
 Radar-Absorbing Camouflage Coating



ASSESSING THE EFFECT OF TECHNOLOGY TRANSFER ON U.S./WESTERN SECURITY

-A DEFENSE PERSPECTIVE-

FEBRUARY 1985



OFFICE OF THE UNDERSECRETARY OF
DEFENSE FOR POLICY
WASHINGTON, D.C. 20301

PREFACE

This report presents results from the first in a series of annual assessments we are preparing to estimate the impact of the international transfer of technology, goods, services, and munitions on Western security. This pilot effort involved the study of what the potential effect of approval of selected 1983 and 1984 Commodity Control List and Coordinating Committee (CoCom) cases could have been. We note that, thanks to collective U.S. Government efforts to tighten controls, virtually all of the important cases analyzed were denied licenses. This means that the Soviet Union was not able to benefit from these transfers. However, we note that without a tight multilateral control system the negative impact on our national security could have been significant.

From the start we believed that this assessment should focus on the transfer of technology and not just on the direct use of a particular product since this is where the Soviet Union benefits most from trade with the West. We were able to identify patterns of Soviet acquisition activity and relate these patterns to appropriate military operational capability areas. We believe that such patterns reflect the long term interests of the Warsaw Pact. Our estimates of the impact of technology transfer on the security of the United States and its Allies are derived from an understanding of these long term interests. Our quantitative modeling measures the enhancement of Soviet defense efforts associated with imported Western technology, taking into account factors such as Soviet technology lead/lag times, technology assimilation rates, indigenous developments, and economic constraints.

As with any economic modeling, the results are somewhat dependent on assumptions. Data on Soviet and Warsaw Pact requirements and use of Western technology are not easy to obtain and even the U.S. intelligence community is divided on some issues and interpretations. This variation in expert opinion is reflected in the model results which show maximum (upper bound) and minimum (lower bound) estimates of Soviet defense savings. We made every attempt to be conservative in these estimates. When significant disagreement was evident, we used the most conservative assumptions.

Our challenge during the coming years is to find an appropriate method for quantifying the impact of a particular sale in time to support individual case decisions. We intend this type of assessment to become an important tool for support of technology transfer policy development and case review.

Contributions to this effort have been made by many individuals. We wish to thank those within the intelligence community, the Office of the Secretary of Defense, the Services and other Defense components whose suggestions and critiques have been invaluable.

Richard N. Perle
Assistant Secretary of
Defense for International
Security Policy

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EXECUTIVE SUMMARY

For nearly two decades, the Soviet Union has maintained a massive, national program to acquire critical military-related Western technology. Soviet military decision makers acquire such technology through legal and illegal channels. Their acquisition strategy is, in fact, coordinated at the highest levels of their government. Such a well-defined effort poses a direct military threat to the security of the United States and its allies.

The Department of Defense has long argued that the negative effects of the successful acquisition of Western goods and technology by the Warsaw Pact on the NATO/Warsaw Pact military balance are significant. The list below highlights such concerns:

Warsaw Pact exploitation of Western technology has:

- Saved billions of dollars;
- Drastically reduced weapon development times;
- Greatly enhanced defense industrial productivity; and
- Allowed quick response to Western weapons and tactics.

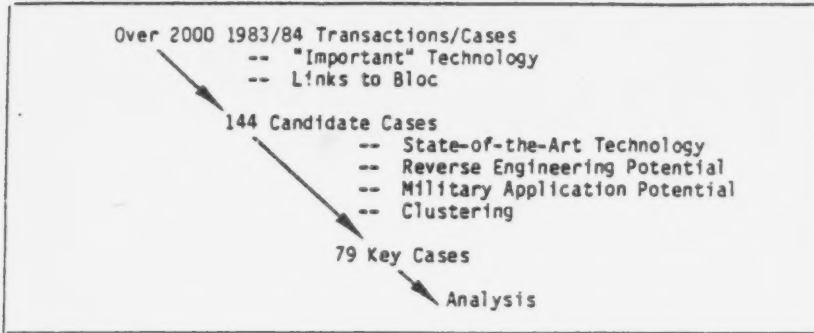
The principal findings of this pilot study are:

Exploitation of Western Technology

- Could have saved the Soviet military \$6.6 to \$13.3B
- Could have cost the U.S. and its allies \$7.3 to \$14.6B
- Could have degraded the NATO/Warsaw Pact military balance
- Could have contributed to Soviet/Pact technological capabilities -- particularly in automated production and control, microelectronics, telecommunications, and computers
- Could significantly reduce military system development times
 - Three to five years for ASW sensors
 - Over five years for strategic and tactical C³
- Has contributed to the altering of major Western development efforts
 - Early move from ALCM-A to ALCM-B

The Defense Department produced this quantitative assessment because more precise measures of military impact and cost not only improve decisions on individual cases but also convey concern to all of the various communities who must be involved in an effective technology security program, be they in industry, academia, or government.

This pilot study evaluates a cross-section of licenses through the U.S. and multilateral export control system attempted during 1983 and 1984.



It is important to note that most of the significant Soviet acquisition efforts analyzed were stopped. The control system was successful. Our defense budget projections are based on it remaining so. However, as noted above, without a tight multilateral control system, the negative impact on our national security could have been significant.

Our study methodology is outlined below in Figure E-1. A more detailed discussion of this methodology along with assumptions and caveats is found in Chapter 2.

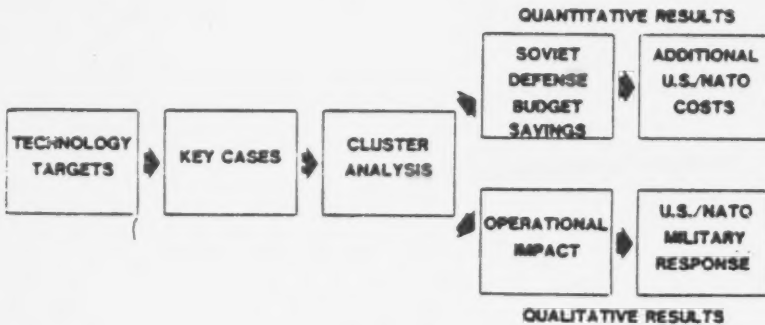


Figure E-1

PILOT STUDY METHODOLOGY

The potential impact of the cases analyzed as well as the military areas most affected are summarized in Figure E-2. The cases show the strong correlation between Warsaw Pact military-industrial goals (as discussed in

SOVIET/PACT TARGET GROUP	# OF KEY CASES	POTENTIAL IMPACT	MILITARY AREAS MOST AFFECTED
Automated Production and Control	20	Improve Soviet/Pact efficiencies, particularly in the machine tool and machine building sectors. Improve production efficiencies in steel and aluminum sectors.	Armored vehicle production (e.g., tanks), aircraft- and ship-building.
Telecommunications	16	Improve Pact-wide communications networks; improve machine-to-machine communications capabilities; improve RAD.	Warsaw Pact C ³ , cruise missile warfare R&D.
Microelectronics	14	Improve Pact-wide production to at least MSI level, possibly freeing Soviet fabrication lines for more advanced device work; improve test instrumentation throughout. May compensate for production problems experienced in 1983.	"On-board" electronics packages for aircraft, naval vessels, land vehicles, and virtually every major Soviet weapon system.
Computer Technology	8	Provide the base line for Soviet development of 16- and 32-bit supermini computers. Compact computer development throughout the Pact.	Affects nearly every major mission area, including C ³ , signal processing (ASW), navigation and guidance.
Sensor Technology	7	Improve Pact acoustic-wave device production and signal processing capabilities.	Anti-submarine warfare and electronic warfare.
Optoelectronics/Electro-Optics	4	Improve research and development of militarily-relevant optoelectronic.	C ³ (fiber optics), laser research (directed energy), IR sensor systems.
Genetic Engineering/BI/CI	3	Improve military research and development.	Chemical warfare, biological warfare.
Power Generation and Propulsion	4	Improve jet engine performance/reliability.	Soviet/Pact air forces.
Transportation	2	Improve Soviet automated management systems.	Military transport/logistic support.

*One case in Guidance and Navigation not included.

Figure E-2

SUMMARY CONCLUSIONS OF TARGET TECHNOLOGY GROUP ANALYSIS*

their current five-year plans) and their attempts to acquire Western technology. For example, Western automated production and control technology is vital to Soviet/Pact priority efforts to improve and automate their manufacturing base -- particularly their machine tool and machine building sectors. Eastern European efforts to acquire Western microelectronics production technology appear to be directed toward filling gaps in the Soviet-made equipment purchased by the Bloc. The Soviets also appear quite interested in Western signal processing technology. Soviet or Pact military facilities were directly involved in several acquisition efforts, while other cases have a strong link to Warsaw Pact weapon production.

The cases reviewed from 1983 and 1984 also show a number of important Soviet/Warsaw Pact patterns in acquisition attempts and specific country emphases. For example, the country with the largest number of key cases was Hungary, the only Pact country having "Most Favored Nation" status throughout 1983. Hungarian requests showed a clear emphasis on computer and telecommunication technology. Another noteworthy feature is the number of key cases involving Bulgaria -- probably the closest Soviet satellite. Bulgaria had far more key cases than one would have expected, which gives rise to the concern that some Bulgarian acquisitions may be Soviet-sponsored. Chapter 3 of the attached report presents our analysis of these acquisition patterns.

In summary, Soviet efforts to acquire Western technology in 1983 and 1984, had they been successful, could have had a significant impact on a number of key technology areas -- automated production and control, microelectronics, telecommunications, and computer technologies. Figure E-3 identifies those technology areas which would have benefitted most from successful Soviet acquisition efforts in 1983 and 1984.

	TARGETED TECHNOLOGIES	AUTOMATED PRODUCTION AND CONTROL	MICROELECTRONICS/SEMICONDUCTOR	TELECOMMUNICATIONS	SENSOR TECHNOLOGY	COMPUTER TECHNOLOGY	OPTOELECTRONICS/ELECTRO-OPTICS	POWER GENERATION/BW/CW	GENETIC ENGINEERING/TRANSPORTATION
TREND IN U.S. LEAD	➡	➡	➡	➡	➡	➡		➡	
1983-84 TRANSFER ATTEMPTS COULD HAVE SIGNIFICANTLY AIDED SOVIET CAPABILITY	☆	☆	☆		☆				

KEY:

➡ U.S. LEAD DECREASING

☆ SIGNIFICANT CONTRIBUTION

➡ U.S. LEAD INCREASING

Figure E-3

IMPACT ON TARGETED TECHNOLOGY AREAS

If they had been successful, Soviet acquisition efforts in 1983 and 1984 could have had significant adverse effects on the military balance in key mission areas (strategic warfare, tactical warfare, C³I, and defense-wide support) as summarized in Figure E-4.

MISSION AREAS	AUTOMATED PRODUCTION AND CONTROL TELECOMMUNICATIONS MICROELECTRONICS COMPUTER TECHNOLOGY SENSOR TECHNOLOGY OPTOELECTRONICS/ ELECTRO-OPTICS GENETIC ENGINEERING POWER GENERATION AND PROPULSION TRANSPORTATION 1983/84 OVERALL									
STRATEGIC WARFARE	H	H	L	M	M	L	L	L	L	M
NAVAL WARFARE	H	H	M	M	M	M	L	M	L	M
LAND WARFARE	M	M	M	M	M	M	L	M	L	M
AIR WARFARE	M	M	M	M	M	M	L	M	L	M
C ³ I	L	M	M	M	M	M	L	L	L	M
MILITARY SUPPORT/ LOGISTICS	M	M	M	M	L	L	L	M	L	M

☐ H HIGH
 ☐ M MEDIUM
 ☐ L LOW

Figure E-4

OVERVIEW OF POTENTIAL MILITARY IMPACT

A major aspect of this study is its quantitative estimation of the potential savings accrued by the Soviet military through acquisition of Western technology as well as the associated incremental Western defense costs. Figure E-5 lists the estimated total potential yearly minimum and maximum Soviet defense savings accrued during 1985-1997.

As shown, the Soviet military could have gained between \$6.6 and \$13.3 billion between 1985 and 1997 in primary cost savings if the license applications had been approved. These savings would have come largely through direct military production improvements which the Soviets could have gained through exploitation of Western automated production and control products and technology. Not included in this calculation are potentially significant military operational benefits which may result from an improved weapons technology base. These "second order" effects are likely to be much larger than the primary savings.

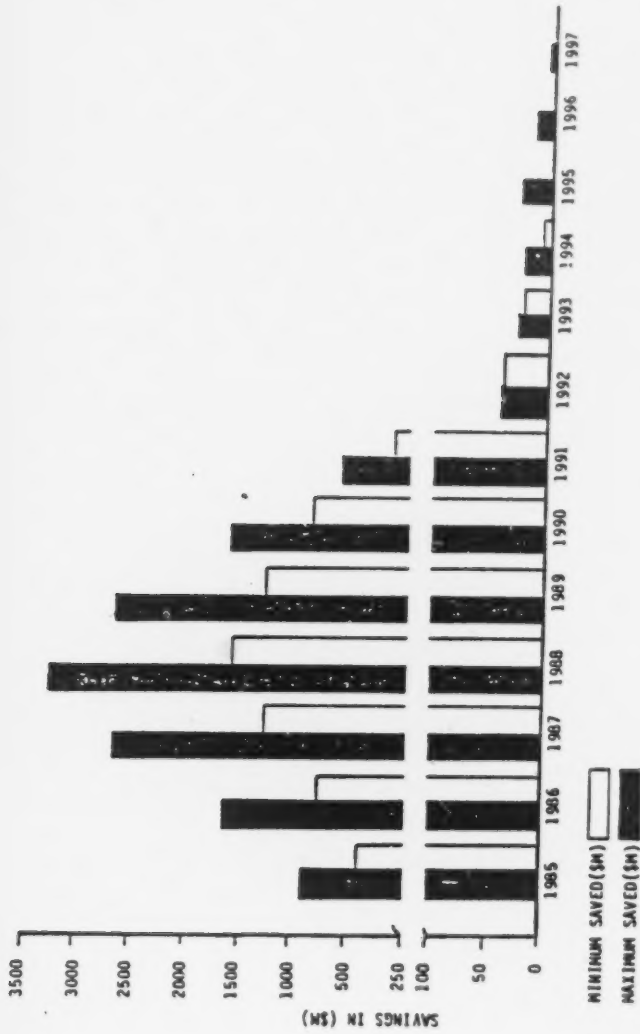
For perspective, one can relate the potential savings in the Soviet defense costs to future Western defense costs. Figure E-6 shows one such estimate of these costs. The lag time between the Soviet savings and the time when Western defense budget would be affected is likely to be several years.

These potential costs are high, but only represent a snapshot in time. The actual costs are much higher still, perhaps \$20-50 billion per year. Cost estimates of such longer-term Soviet technology acquisition efforts are discussed in Chapter 4 of this report.

Based on the analyzed key cases, technology acquisition efforts in 1983 and 1984 could have provided a major increase in Soviet military potential in the 1990s and beyond:

- Major contributions would have been made to Soviet weapon system development programs providing the basis for significant pressure on the future NATO/Warsaw Pact military balance in key mission areas.
- Significant improvements in defense industrial productivity would have occurred.
- Very large savings in Soviet defense resources would have occurred which could have been applied to defense.

As shown, the cost of U.S. responses to such improved Soviet military potential could have been phenomenally large.



E-7

YEAR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MINIMUM SAVED (\$M)	454	786	1313	1592	1315	840	295	43	26	9	--	--	--
MAXIMUM SAVED (\$M)	878	1617	2696	3298	2679	1628	568	45	33	28	32	19.2	6.4

TOTAL: \$6.6-\$13.3 BILLION

Figure E-5

TOTAL POTENTIAL SOVIET MILITARY SAVINGS (1985-1997)

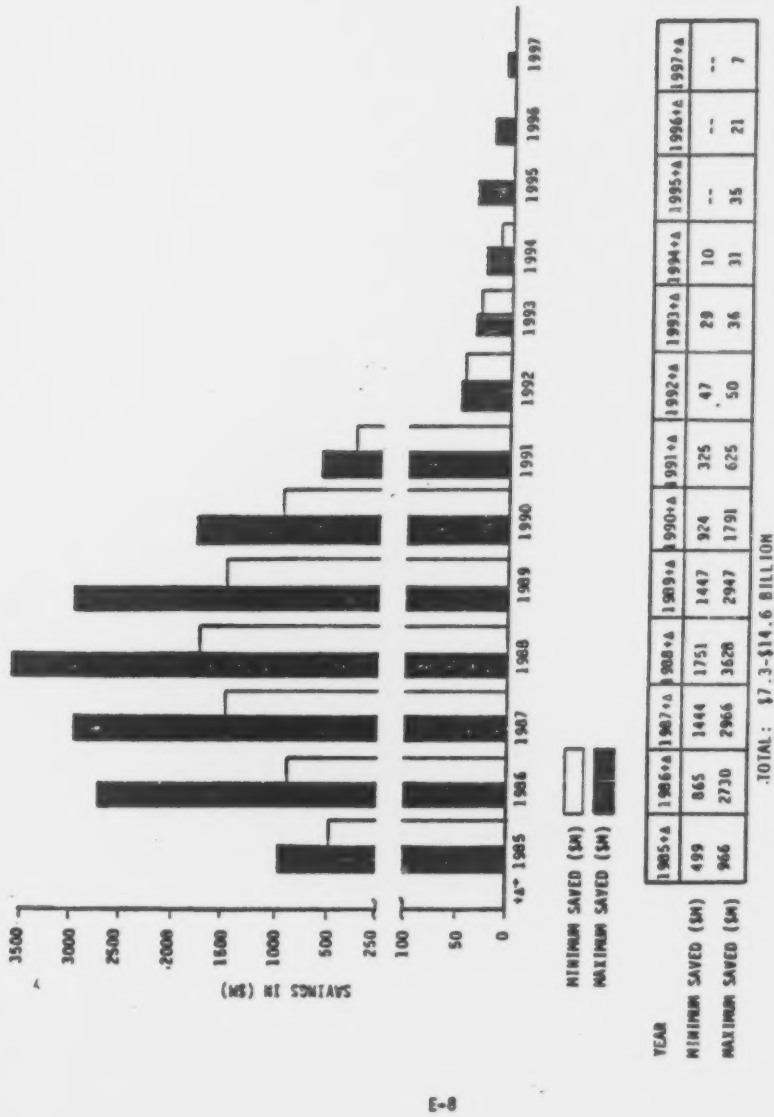


Figure E-6

TOTAL POTENTIAL U.S. DEFENSE BUDGET COSTS (1985-1997)

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

For nearly two decades, the Soviet Union has used a massive national program to acquire critical military-related Western technology. Soviet military decision makers continue to acquire this technology through legal and illegal mechanisms. The Soviet technology acquisition strategy is coordinated at the highest levels of their Government. This strategy allows Soviet planners to close the gap in areas of technology in which they are inferior to the West. The CIA stated in 1982, "Stopping the Soviets' extensive acquisition of military-related Western technology -- in ways that are both effective and appropriate in our open society -- is one of the most complex and urgent issues facing the Free World today."

Department of Defense Directive 2040.2, signed by Secretary of Defense Weinberger on 19 January 1984, requires an annual assessment of the impact on the security of the United States of Western technology transfers to the Soviet Union and other Warsaw Pact nations. This report presents a pilot study undertaken in response to this requirement of DoD Directive 2040.2. This assessment of the adverse impact of various transfers to the Warsaw Pact is intended to provide answers to the following questions:

- How did or could transfers of technology, commodities, services, and munitions impact the U.S. and its allies in their efforts to maintain existing levels of military effectiveness relative to the Warsaw Pact?
- To what extent have export controls saved the U.S. and its allies the outlay of additional resources to counter Soviet technology advances derived for technology acquisitions from the West? What defense budget savings accrued to the Soviets and its allies from technology transfers from the West?
- What balance should be achieved between the needs and resources devoted to control of exports and the needs and resources devoted to other national security programs?

This pilot study, which is a step toward the needed annual assessment, links the overall Soviet technology acquisition strategy with their objectives in key military mission areas. This link may be seen by carefully assessing clusters of Soviet acquisition activity in critical technology areas. Viewed in this way, the underlying patterns of Soviet acquisition efforts may be more clearly seen and understood. The analysis of such acquisition trends helps provide the proper context for the operational and economic impact assessments of individual transfer cases. This context is essential for accurate estimates of the potential impact of such individual cases.

The analysis results in quantitative cost estimates. First, Soviet defense savings are derived from estimates of what the Soviets would have spent to acquire a particular capability had they not had access to the relevant technology via the case being analyzed. A second estimate is of the additional costs required of U.S. and NATO defense establishments as they seek to maintain a status quo against the improved Soviet military operational capabilities that are acquired from the foregoing savings. In some instances, the assessment of the pressure placed on the military balance from technology acquisition is qualitative in nature (e.g., improved weapon lethality).

1.2 THE CONTEXT FOR A QUANTITATIVE IMPACT ASSESSMENT

The international export environment of the 1980s is significantly different than when the U.S. was the acknowledged leader in military-related technology. The United States is now first among equals in many areas and, most importantly, no longer the sole source for most relevant defense technology. This fact, coupled with the new dynamics for international trade in both civilian and military products, has immensely complicated the structure of the controls through which the West denies access by the Soviets and other Warsaw Pact countries to its most critical military technologies. The following factors portray the new international dynamics of trade that must be considered in any export control assessment.

- Asymmetries in Trade

Certain Western nations rely much more heavily on their trade with the proscribed nations and the third world nations than others, particularly in certain high technology industries.

- Changing Character of Defense Technology

In the post-World War II environment, the focus of the science and technology community was on military technology. Many military technology developments became sources for commercial development (e.g., the KC-135 was predecessor to the civilian product, the Boeing 707). In more recent times, however, the development of civilian products often drives military developments. This is nowhere more evident than in the area of electronics and computers where the military application of the computer is sometimes several generations behind the application in the civilian market-place.

- The Linkage of Technology Transfers with Product Trade

Nations have become more sophisticated in addressing their long-term economic needs and requirements. Many nations desire to link their own industrial development with the purchase of products by a more complicated system of offsets. Rather than simply buying an airplane from an industrial producer, the buyer may wish to offset the cost of this purchase by selling or coproducing subcomponents or systems of the airplane.

• The Pressure of Foreign Military Sales

Not only has competition in the commercial sector increased, there has also been greater pressure to export military technology to our allies and then in turn compete with these allies for sales of military equipment to third-world countries. In prior years, the U.S. could simply sell second-generation (or older) equipment to other countries and reserve the most modern systems for our own forces. This option, however, is changing.

The Export Administration Act of 1979 itself reflects many of these competing tensions. Inherent not only in the larger national policies, but also in each export case decision, are the needs to:

- Encourage trade and remain competitive in world markets.
- Restrict the flow of militarily-critical technologies to proscribed nations to enhance our national security.

It is difficult (and in some cases almost impossible) to separate these two goals. Export control policy and decision making must therefore strive to address this dilemma in a rational manner. In promoting specific export control policies and procedures, DoD and the U.S. Government, in general, must establish a quantitative basis for assessing the negative and positive impacts of transfers on Western national security. It is for these reasons that DoD is undertaking this quantitative assessment approach.

1.3 THE SOVIET TECHNOLOGY TRANSFER ACQUISITION STRATEGY

1.3.1 Acquisition Strategy

"We well know that peace cannot be begged from the Imperialists. It can only be defended by relying on the invincible might of the Soviet Armed Forces."

Yuri Andropov

"We will further see to it that our country's defense capability is strengthened, that we have enough means to cool the hotheads of militant adventurists."

Konstantin Chernenko

The true impact of Soviet technology acquisition activity on the security of the United States can be better understood in the context of its relationship to overall Soviet military objectives and strategy. Soviet military requirements dominate their Western technology acquisition goals. Assigning top priority to those Western technology acquisitions which directly assist their military, the Soviets use Western technology to improve substantially the defense-related productivity of their nine

defense-related industrial Ministries. By targeting and tenaciously pursuing key Western technologies, the Soviets ultimately hope to improve their total force operational capabilities, to fill critical gaps in military technology, and to achieve major defense cost and time savings.

The Soviets will field nearly 200 important new weapon systems by 1990, according to recent estimates. These weapons comprise a host of strategic and tactical offensive and defensive systems, and include an MX-class Intercontinental Ballistic Missile (the SS-X-24), a nuclear-powered Ballistic Missile Submarine (Typhoon Class), a B-1-type heavy bomber (the Blackjack), several advanced surface-to-air and anti-ship missiles (e.g., the SA-10, SA-X-12, SS-N-19, and SS-N-22), new cruise missiles, and many more important systems (see Figure 1-1 for a partial listing of these systems).

The Department of Defense estimates that these and future Soviet weapons programs are being driven by six major Soviet goals:

- (1) Improving the lethality and survivability of their strategic forces,
- (2) Improving their ability to conduct military operations in distant areas,
- (3) Improving the survivability of their command and control assets,
- (4) Improving their strategic defense,
- (5) Expanding their space programs, and
- (6) Improving their tactical force effectiveness.

Soviet weapons programs such as those listed in Figure 1-1 must make use of new technology, be cost effective, and have timely research and development periods if they are to match superior Western military technology. Realizing this, the Soviet leadership has constructed a major two-part strategy to help their military programs counter Western technical superiority. One part consists of rapidly developing an indigenous advanced technology base. The second consists of simultaneously acquiring critical Western military-related technology for direct incorporation into their defense-industrial establishment.

1.3.2 Acquisition Tactics

"The acquisition of western technology and finished products is a very calculated procedure done with a great deal of selectivity. Even so, Soviet economists are amazed that the West does not recognize this and continues to invest in the USSR industries since the material and technical base of Socialism is thereby increased. They consider this acquisition program one of the USSR's greatest achievements since it allows the solving of complicated problems with minimal costs." -- Intelligence Source.

• <u>STRATEGIC OFFENSIVE SYSTEMS</u>	• <u>TACTICAL SYSTEMS</u>
SS-X-24 (MX Class) Solid Propellant Intercontinental Ballistic Missile (ICBM) Improved Liquid Propellant ICBMs SS-X-25 Small Solid Propellant ICBM SS-N-20 (D-5 Class) Sub Launched Ballistic Missile (SLBM) Typhoon (Ohio Class) Nuclear Powered Ballistic Missile Submarine (SSBN) Blackjack (B-1B Type) Heavy Bomber Air Launched Cruise Missile (ALCM) BEAR H, Probable ALCM Carrier SSN-NX-21 Tomahawk Class) Sea Launched Cruise Missile SS-NX-23 Sea Launched Ballistic Missile Y-Class Nuclear Cruise Missile Submarine (SSGN) Mod	SS-X-23 Short Range Ballistic Missile Short Range Ballistic Missile (SRBM) Modifications SA-X-12 Surface-to-Air Missile New Attack Helicopter Electro-Optical Tactical Air-to-Surface Missile Large Caliber Unguided Rocket Laser-Guided Bomb Cluster Bomb New Mobile Self-Propelled Anti-Aircraft Artillery (Sgt York Type) Millimeter Wave Anti-Tank Guided Missile SS-N-19 Long Range Anti-Ship Missile OSCAR Class Nuclear Powered Cruise Missile Submarine SS-N-22 Short Range Anti-Ship Missile Ground Launched Cruise Missile New Naval Surface-to-Air Missile Big New Nuclear Powered Submarine New Medium Size Nuclear Attack Submarine SLAVA Class Cruiser MIG-29 (FULCRUM) Interceptor Aircraft AA-X-10 Air-to-Air Missile
• <u>STRATEGIC DEFENSIVE SYSTEMS</u>	• <u>SPACE SYSTEMS</u>
SA-10 Surface-to-Air Missile -- Mobile Modification Modified GALOSH Anti-Ballistic Missile Interceptor High Acceleration Anti-Ballistic Missile Interceptor Pushkino Very Large Anti-Ballistic Missile Radar SU-27 (FLANKER) Interceptor Aircraft MAINSTAY Airborne Warning & Control System (AWACS) Abalakovo Very Large Radar	Medium Lift Space Booster SATURN Class Heavy Lift Booster Space Plane Space Shuttle Large Space Station Potok Communications Satellite (4 GHz) Anti-Satellite System
• <u>SUPPORT SYSTEMS</u>	
CONDOR Heavy Lift Transport (C-5A Type) CANDID Tanker (C-141 Type)	

Figure 1-1

MAJOR SOVIET DEVELOPMENT PROGRAMS
REACHING INITIAL OPERATIONAL CAPABILITY IN THE MID-1980s*

* 1985 Undersecretary of Defense, Research and Engineering Posture Statement

Fundamental goals in Soviet technology acquisition are believed to be formulated by the Military-Industrial Commission (the VPK), an organization of top-ranking Soviet officials from the military and industrial ministries. (Total size and membership of the VPK is closely-held in the Soviet Union, but is believed to contain ministerial-level representatives. For example, Defense Minister Ustinov is a former chairman of the VPK). The VPK most likely sets its acquisition priorities in consultation with the various State Committees and with the defense establishment. This dialog is quite important to effective planning. Without the technical inputs from the industrial sector and military establishment, the VPK could not form efficient and well coordinated technology acquisition goals.

After formulation, the VPK then directs its technology acquisition goals through the Soviet Armed Forces, the defense-related industrial ministries, intelligence organizations, and the appropriate State Committees. (See Figure 1-2.) This tasking sparks activity in the four major Western technology acquisition organs of the Soviet Union: the KGB, the GRU, the Ministry of Foreign Trade, and the State Committee for Science and Technology (GKNT)/USSR Academy of Sciences. Each of these organizations uses acquisition channels most suited to its function.

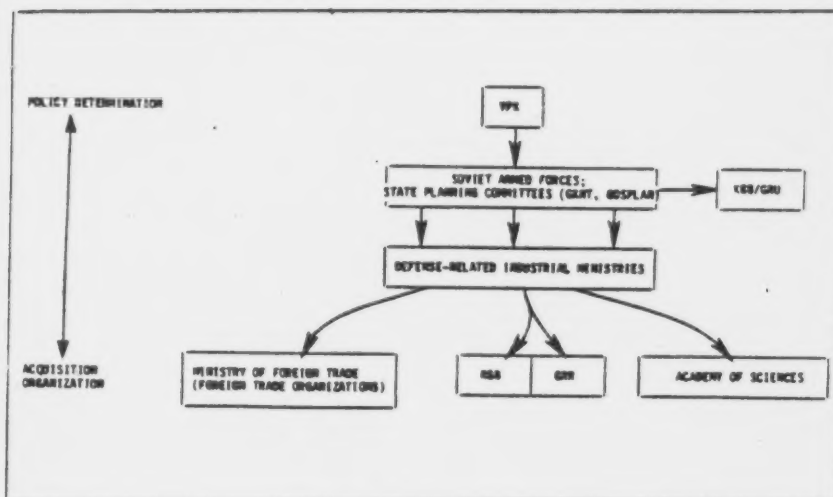


Figure 1-2

THE SOVIET TECHNOLOGY ACQUISITION TASKING HIERARCHY

The Soviets also attempt to coordinate their internal development efforts with their external technology acquisition programs. Their coordinated two-part approach has several distinct advantages:

- Flexibility: By simultaneously attempting to develop an indigenous capability, the Soviets broaden their options in Western technology acquisition.
- Assimilation: Assimilating advanced Western technology is nearly impossible without an indigenous industrial capability skilled enough to absorb it. This is particularly important in the Soviet weapon design cycle.
- Self-Sufficiency: Soviet doctrines of self-sufficiency (autarky) call for indigenous development, especially in military areas.

The net result of this Soviet technology acquisition strategy is to reduce the time needed to produce and improve current weapon systems or develop new ones. By clustering their technology acquisitions the Soviets are more likely to improve their performance in broad military mission areas.

The Soviets pursue their acquisition tactics on a global scale; they establish dummy firms in Europe, Asia, Africa, Canada, and the U.S. They trade through the blackmarkets of Asia. They work through third world channels. They take advantage of the growing multinational character of high technology by exploiting loopholes created by differing export control regulations in the West.

And they have been successful. As stated by the CIA:

"In certain of the [technical] areas, notably the development of microelectronics, the Soviets would have been incapable of achieving their present technical level without the acquisition of Western technology....This advance comes as a result of over 10 years of successful acquisition -- through illegal, including clandestine, means -- of hundreds of pieces of Western microelectronic equipment worth hundreds of millions of dollars to equip their military-related manufacturing facilities. These acquisitions have permitted the Soviets to systematically build a modern microelectronics industry which will be the critical basis for enhancing the sophistication of future military systems for decades. The acquired equipment and know-how, if combined, could meet 100 percent of the Soviet's high-quality microelectronics needs for military purposes, or 50 percent of all their microelectronic needs."

Soviet acquisition efforts are accomplished through a bewildering array of technology transfer mechanisms. Department of Defense Directive 2040.2 (on International Transfer of Technology, Goods, Services, and Munitions) gives a partial list of major acquisition channels. (See Figure 1-3.)

COMMERCIAL AND GOVERNMENT SALES	INTERNATIONAL PROGRAMS (SUCH AS FUSION, SPACE, AND HIGH ENERGY)
SCIENTIST, ENGINEER, STUDENT, AND ACADEMIC EXCHANGES	PATENTS
CONSULTING AGREEMENTS	CLANDESTINE OR ILLEGAL ACQUISITIONS
LICENSING AND OTHER DATA EXCHANGE AGREEMENTS	DISSEMINATION OF TECHNICAL REPORTS AND TECHNICAL DATA
CO-DEVELOPMENT AND CO-PRODUCTION AGREEMENTS	DISSEMINATION OF TECHNICAL REPORTS UNDER DOD DIRECTIVE 5400.7
COMMERCIAL PROPOSALS AND ASSOCIATED BUSINESS VISITORS	DIVERSIONS OR EVASIONS OF CONTROL PROCEDURES
TRADE FAIRS, EXHIBITS, AND AIR SHOWS	SMUGGLING
SALES TO THIRD PARTY NATIONS	DUMMY CORPORATIONS
MULTINATIONAL CORPORATION TRANSFERS	ACQUIRING AN INTEREST IN U.S. INDUSTRY, BUSINESS AND OTHER ORGANIZATIONS
FOREIGN TECHNICAL MISSIONS	

Figure 1-3

TECHNOLOGY TRANSFER MECHANISMS (FROM DOD DIRECTIVE 2040.2)

It is through mechanisms such as these that the Soviets attempt to execute their technology acquisition strategy. And it is through these mechanisms that Western policymakers must meet the global technology security challenge.

Today, the Soviet military acquisition strategy focuses largely upon 14 key technology clusters (see Figure 1-4). Soviet activity in these target groups is of fundamental importance to their ongoing weapons system RDT&E. The Soviets realize they must improve weaknesses in their defense industrial base if they are to keep pace with Western technological developments. By focusing their acquisitions in these 14 areas, the Soviets are attempting to acquire the broadest possible military advantages while simultaneously improving their own technical shortcomings.

<u>Automated Production and Control</u>	<u>Power Generation and Propulsion</u>
• Artificial Intelligence • CAD/CAM • Robotics • Robotics Sensors • Automated Test, Production • NC and CNC	• Power Sources Technology • Research and Development • Propulsion Technology
<u>Computer Technology</u>	<u>Production and Manufacturing</u>
• Design and Manufacturing • Architecture • Software/Firmware • Networking/Communications/Analyzers	• Heavy Industry Machinery • Lathes, Furnaces, Presses, Etc.
<u>Directed Energy</u>	<u>Structural Materials</u>
• Particle Beam • High Energy Lasers • Microwave	• Advanced Composites Technology • Carbon-Carbon Technology
<u>Sensor Technology</u>	<u>Genetic Engineering/BW/CW</u>
• Radar Devices • Array Processors • Infrared Technology • Signal Processing	• Gene Splicing • Recombinant DNA/RNA • Production Know-How
<u>Guidance and Navigation</u>	<u>Telecommunications Technology</u>
• Inertial Components • System Integration	• ELF Technology • Jamming; Secure Communications • Hostile Radiation Environment Communication • Networking/Switching/Analyzers • EW R&D • IFF
<u>Microelectronics/Semiconductors</u>	<u>Transportation Technologies</u>
• Production Technology • Research and Development • Components, Materials	• Aircraft Design and Technology • Spacecraft Design and Technology • Sea Vessel Design and Technology • Aerodynamics/Fluid Dynamics
<u>Optics/Optoelectronics</u>	<u>U.S. Weapon Work</u>
• Fiber Optics Technology • Lenses/Mirrors Technology • Electro-Optic Devices • Infrared Devices	• Intelligence Activity Against Current Weapon Capabilities

Figure 1-4

KEY WESTERN TECHNOLOGY TARGETS OF THE SOVIET MILITARY

CHAPTER 2

METHODOLOGY

2.1 OVERVIEW OF PREVIOUS ASSESSMENT METHODOLOGIES

Measuring the impact of Western technology transfers on the Soviet defense is an exercise in discriminating between the effects of Western technology and all other sources of technology. Since new technology can be embodied in product-form in imports of new machines and materials, or can be in process form as patents, licenses, and other forms of know-how, this discrimination can be very difficult. There are two general categories of techniques for estimating the impact of technology transfer.

One category relies upon strictly quantitative expressions that describe the relationship between imports, other inputs, and industrial output. These quantitative expressions can reflect a variety of theoretical notions about how imported technology affects the production process, and can range in abstraction from highly-aggregated two-factor production functions to 88-sector input-output (I-O) tables. The other general category of techniques is descriptive -- ranging from anecdotal accounts of specific events, through in-depth case studies of industrial sectors, to descriptive models of Soviet industrial decision making. Although such descriptive assessments can illuminate our understanding of how technology is transferred, they do not allow for quantifying the impact.

2.2 PILOT STUDY METHODOLOGY

Although macroeconomic techniques offer opportunities to view the Soviet economy from a certain perspective, the approach which appears best suited to the assessment at hand is the microeconomic assessment of individual transfers. Such an approach provides sufficient detail to reflect the leverage of certain transfers from the West and allows for extrapolation to an estimate of the aggregate impact. There are a number of reasons why use of a microeconomic approach is desirable:

- Most of the effects being measured are targeted to very specific applications. Macroeconomic modeling is accomplished at much higher levels of aggregation. Since for the most part, data are not available to support macro-modeling at such levels of disaggregation, the results will not measure the actual military effects.
- Although the overall economic impact of high technology acquisition may be small in the context of the total Soviet economy, it is highly leveraged in the context of the military balance.

A brief macroeconomic assessment was performed in order to bound the microeconomic assessment. This effort, based on existing techniques, yielded the following "rough" quantitative results:

- Upper Bound* -- \$60 billion per year (based on Mansfield's estimate)
- Lower Bound* -- \$6.2 billion per year (based on an average annual increment of 0.4% to Soviet GNP)

Figure 2-1 below shows the methodology used within this pilot study:

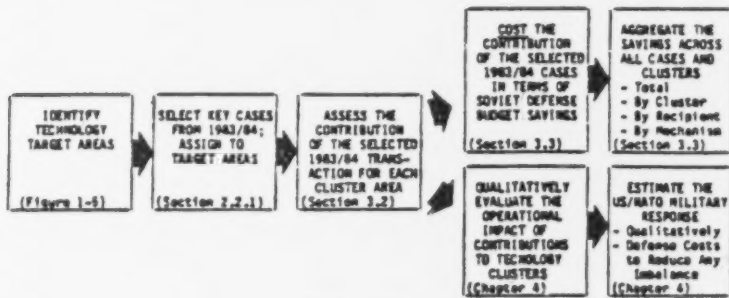


Figure 2-1

PILOT STUDY METHODOLOGY

The principal elements of data and expert judgment used within our pilot study are shown below.

- Selection of specific Commodity Control List and CoCom List cases to the USSR/Warsaw Pact which have been approved, denied, or returned without action. (Most of the cases in the final selection process were denials.)
- Identification of key technology elements of the cases (source: Department of Defense case files).
- Identification of potential enhancement of Soviet capability (source: finished Defense Intelligence Agency reports; interviews with experts).
- Calculation of potential Soviet defense budget savings (pilot study microeconomic approach combined with technical analysis) as well as the potential Western defense budget increases needed to maintain the extant military balance.

* Analysis only of imported Western capital goods; based on 1980 Soviet imports and 1980 Soviet GNP.

The technologies assessed and recipients evaluated are shown in Table 2-1.
The country of origin is shown in Table 2-2.

Table 2-1
RECIPIENT COUNTRIES

TECHNOLOGY AREA	USSR	BULGARIA	HUNGARY	CZECHOSLOVAKIA	POLAND	ROMANIA	GDR	YUGOSLAVIA	TOTAL
AUTOMATED PRODUCTION AND CONTROL	2	4		8		1	5		20
MICROELECTRONICS	4	2	5	1		2			14
TELECOMMUNICATIONS		2	9	3		1	1		16
SENSOR	3	1		1	1		1		7
OPTOELECTRONICS	2	1		1					4
POWER/PROPULSION	1					3			4
COMPUTERS	1	3	4		1				9*
STRUCTURAL									0
TRANSPORTATION	1					1			2
BIOLOGICAL WARFARE/ CHEMICAL WARFARE	2			1					3
GUIDANCE					1				1
MANUFACTURING									0
DIRECTED ENERGY									0
WEAPONS									0
TOTAL	16*	13*	18	15	3	8	7	0	80**

* One case for this country also counted once for another country

** There are actually 79 different cases.

Table 2-2
COUNTRY OF ORIGIN

TECHNOLOGY AREA	USA	UK	FRG	FRANCE	NORWAY	CANADA	SWEDEN
AUTOMATED PRODUCTION AND CONTROL	16	2	2				
MICROELECTRONICS	8	4	1		1		
TELECOMMUNICATIONS	7	1	5	1		1	1
SENSOR	5	1		1			
OPTOELECTRONICS	3	1					
POWER/PROPULSION	4						
COMPUTERS	6		1		1*		
TRANSPORTATION	1			1			
BIOLOGICAL WARFARE/ CHEMICAL WARFARE	3						
GUIDANCE/NAVIGATION	1						

* 5 separate attempts counted as 1 case.

Table 2-3 below provides an overview of the types of transactions involved:

Table 2-3
OVERVIEW OF TRANSACTIONS

	PERCENTAGE OF KEY CASES
Direct Sales	86
Scientific/Engineer Exchange, Training	2
Trade Fairs, Exhibits, Air Shows	8
Licensing and Other Data Exchange Agreements	4

Most of the cases studied were direct sales. In an expanded study, it is anticipated that a broader range of transfer mechanisms could be analyzed with a higher percent of cases analyzed per transfer mechanism.

2.2.1 Case Selection

Researchers attempting to quantify the impact of technology transfer on the security of the United States are immediately confronted with a problem: What constitutes a transfer, and what makes a transfer significant? This study principally focused upon trade to the Soviet Union and Eastern Europe as represented by CoCom and Commodity Control List (CCL) cases referred to the Department of Defense. The data base consisted of the entire DoD CoCom and CCL file for 1983 and 1984. We also used for reference comprehensive unclassified worldwide reports of Warsaw Pact acquisitions from 1982, economic integration reports of the Soviet Union and Pact for 1982, and a large number of economic and intelligence studies on Soviet and Pact technological capabilities.

The DoD files contain over two thousand cases. Our first task was to establish selection criteria which would accurately determine which cases were key. This process had to ensure that we obtained a broad enough view of Soviet/Bloc acquisition efforts, while simultaneously eliminating those having little or no potential impact. Our selection process consisted of several stages as shown in Figure 2-2 below:

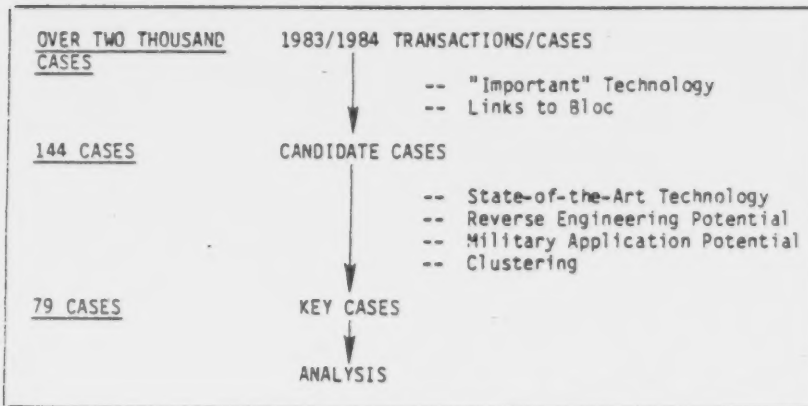


Figure 2-2

CASE SELECTION PROCESS

First, we made a technical examination of each of over two thousand cases in the DoD files. We then screened cases as candidates if they met the following critical standards: they must contain or relate to important technology and they must be requested by the Soviet Union or an Eastern European nation. The important technology determination was done on a case-by-case basis.

This initial screening accomplished two important tasks. First, it based the study, from the outset, on the contribution of a particular product or technology and not upon broad-based economic modeling or upon U.S. Government policy practices. Second, it focused attention directly on West-East transfers, and not on West-West transactions which could have been re-transferred to the East. So the initial cases contained only those candidates which involved technology-based concerns and had undeniable links to the Soviet Union or Eastern Europe. Slightly more than 140 cases from the data base survived this first screening.

The next step was to determine which of these candidate cases should be considered as key cases. This required additional criteria; the identified technology concerns had to be clear cut. For example, key cases include those involving state-of-the-art technologies intended for Soviet military facilities and those containing critical embedded technology with a high probability of reverse engineering. Cases which could not be clearly assigned a military application were eliminated at this stage. Nearly 40 percent of the more than 140 candidate cases failed to meet this criteria.

2.2.2 Clustering According to Application

At this level of review, we began to see many broad patterns in Soviet/Bloc acquisition efforts (such as heavy emphasis on specific product lines or repeated efforts to acquire one piece of hardware). To study these apparent patterns, we needed to group cases according to their most likely applications, and we needed to consolidate those cases which involved repeated attempts to acquire one particular item. To help in this consolidation process and to better understand our linkage of the transfers to the Soviet military, we related the cases to a list of 14 key Western technology targets generally believed to be of priority to the Soviet military (see Figure 1-4).

After grouping cases accordingly, we consolidated the repeat attempts, counting the collection of all repeated efforts to acquire a specific item as one case involving that item. In this way, we were able to compensate for any over-counting which may be caused by repeated acquisition attempts. This helps us more clearly study the apparent technology acquisition emphases and their underlying acquisition patterns.

2.2.3 Costing Method

An important aspect of the analysis of each case is the estimating of Soviet defense budget savings. The Soviet savings accrued was estimated as shown below:

- The effect is transitory depending on technology.
- The per-year Soviet productivity enhancement associated with a specific case will vary depending on the type of transfer, rate

of absorption, and initial U.S. lead/Soviet lag. Each case has its own characteristic profile as shown in Figure 2-3 below.

- Each case provides potential gain in Soviet defense industrial productivity, measured as FY 83 dollar savings or in enhanced system performance.

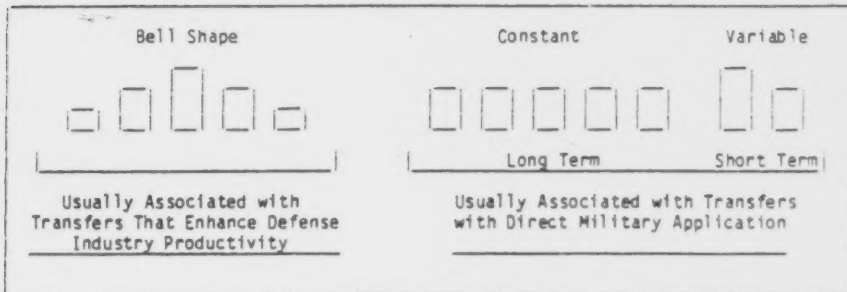


Figure 2-3

ASSUMED PRODUCTIVITY FUNCTIONS

The costing analysis in this report consistently used conservative economic assumptions and models. For example, one key case involved the attempted transfer of technical production data which could be used to produce large high quality bearings for heavy rotating machinery. These bearings are superior to those produced in the Warsaw Pact and could have been used to substantially affect a number of weapons systems, including aircraft, submarines, transport vehicles and tanks. The costing analysis for this case conservatively focused on only one of these applications (aircraft), and assessed potential military savings only through conservative estimates of maintenance savings. Many other potential effects (e.g., reduced infrastructure costs or improved force sustainability) were not included in the final calculations. This results in a highly conservative cost estimate (see Figure 2-4).

In addition to conservative application assumptions, the costing analysis used conservative economic models to calculate specific effects. For example, appropriate economic models were selected based upon the application of the technology and these were combined with a range of economic assumptions regarding Soviet lead/lag, assimilation rates, and military applications. See Figure 2-5 for an example.

In order to provide the reader with a measure of accuracy of these cost estimates, two numbers have been calculated whenever possible:

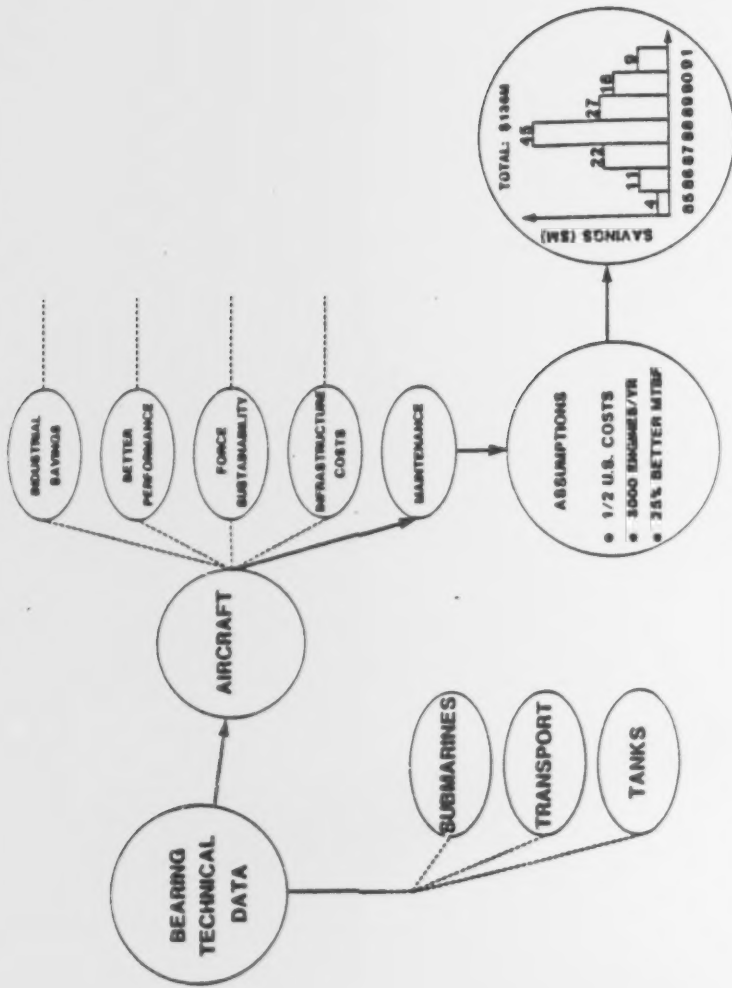


Figure 2-4

COSTING EXAMPLE

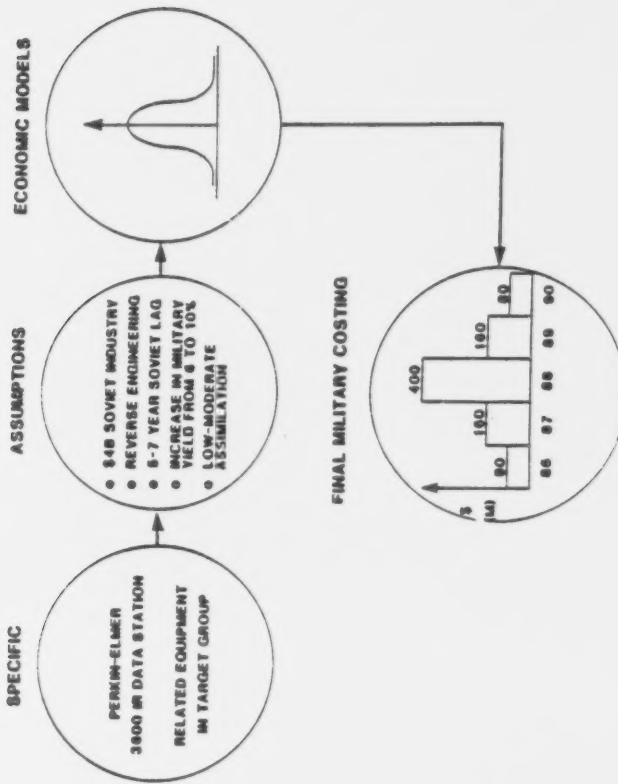


Figure 2-5

COSTING EXAMPLE

- Lower Bound - Based on minimum assumptions of Soviet use.
- Upper Bound - Based on U.S. practice with Soviets achieving the maximum marginal utility from the transaction.

2.2.4 Assumptions

As implied by the discussion of alternate methodologies, a number of assumptions must be made to be able to quantify the impact of technology transfer. The more important general study assumptions are as follows:

- Based on available data and judgments, each case study has an assumed application of technology or products which result from the transaction. Although based on a rationale and placed in the context of transfers over the last 10 to 20 years, the linkage of a transfer with its application is an assessment of the most likely end use. The end uses are not always confirmed.
- For each case, a set of assumptions (e.g., production rate of a particular plant) is made to calculate Soviet defense budget savings.
- The total Soviet defense budget savings is the sum of the individual savings. Given the treatment of cases within the technology clusters, this assumption of case independence should be valid.
- Rather than add uncertainty to the cost results from converting rubles to dollars, the study estimated all costs in dollars.

2.2.5 Context

The following issues are highlighted regarding this pilot study to put it in a proper context:

- Since the cost estimates calculated are based on a set of assumptions regarding Soviet/Warsaw Pact use of acquired technology, they are illustrative of the magnitude of the cost impact.
- Estimates of Warsaw Pact operational impact and U.S. counters are based on expert technical judgments.
- The assessment looks at a narrow spectrum of cases. The magnitude of impact estimated herein is, thus, not representative of the full range of transfers (e.g., illegal transfers were not evaluated).
- Most of the cases showing a significant Soviet savings are cases DoD recommended for denial. Thus, the cost impact was likely avoided by the U.S. Government's review and control process.

- The assessment presents conservative estimates of the cost impact. Costs were only included for primary effects and not for all possible military applications.

2.2.6 Summary

In summary the assumed study approach focuses on both technology and economic factors affecting impact. The strengths of the approach are that it is:

- Excellent for incorporating critical technology factors into the model.
- Focused on high-priority technologies, and is not diluted by less significant aggregates.

Its accuracy, however, requires large numbers of carefully selected case studies.

CHAPTER 3

TARGET TECHNOLOGY CLUSTER ANALYSIS

3.1 INTRODUCTION AND FINDINGS

This chapter presents the results of the technical and economic assessments of the 79 key cases from 1983-1984 in the context of targeted technology groups. Each of the 79 key cases met the technical, military, and end-user criteria outlined in Chapter 2.

3.2 ANALYSIS OF TECHNOLOGY CLUSTER KEY CASES

This section analyzes the potential impact of key cases from 14 different technology target groups (see Figure 1-4). Based on the population of key cases, the target groups have been divided into those having high, moderate, and low/no acquisition activity.

3.2.1 High Acquisition Activity Clusters

3.2.1.1 Automated Production and Control

Summary ConclusionsAutomated Production and Control (APC)

- High acquisition activity in this area appears linked to the Council for Economic Mutual Assistance (CEMA) priority objectives to incorporate APC technology into machine tool and machine building sectors.
- Bloc countries most active in acquisition are those assigned special CEMA responsibilities (Czechoslovakia, GDR, USSR, Bulgaria).
- Significant Pact targeting of one particular line of technology (from a world-leading U.S. manufacturer) strongly implies a reverse-engineering intent (probably for the machine tool industry). The volume of attempts may be evidence of Soviet efforts to mask acquisition patterns by spreading attempts through many cases.
- At least two cases (out of 20) were intended for facilities which produce armored vehicles.
- The net impact of the proposed transfer could have been very large.

There was a large number of Soviet and Warsaw Pact attempts to acquire Western Automated Production and Control (APC) technology in 1983 and early 1984. The acquisition efforts appear to corroborate U.S. Government estimates of Soviet difficulties in this key technology. The case volume also implies a link between the Soviet Western technology acquisition strategy and the Bloc-wide emphasis on improving their overall automated production and control technology base. (See Figure 3-1.)

The Soviets have recognized the importance of computer-controlled machinery since the mid-1960s. Their eighth 5-year plan called for the assimilation of 63 models of programmed machine tools into the national economy. This plan assigned program responsibilities to several production sectors, including an important defense industry (through the Ministry of Aviation Industry). Also, the plan tasked the State Committee for Science and Technology (SKNT) to assist research and development efforts. The 26th Congress of the Communist Party of the Soviet Union reinforced this emphasis on automated production and control technology when it called for the introduction of computer technology throughout all sectors of Soviet industry. Since the Soviets almost certainly wish to improve their defense-related production, such efforts must be viewed as having a major military impetus.

Soviet production automation includes both information management and computer-assisted production control systems. The Soviets view automation and production control as a complex task requiring engineering, mathematics, and computer science support. Soviet national-level programs to incorporate computer technology into their production industries employ the scientists from many of their most important scientific research institutes.

Nearly all of the key cases examined in this target group were denied export. If acquired, this technology could have significantly helped to satisfy Pact-wide priority objectives to incorporate computer control technology into key defense industrial sectors -- sectors the Pact relies upon to provide critical materiel and components for current and future weapon production.

The Pact acquisition pattern implies significant reverse engineering intent, direct military production support, and coordinated Bloc-wide acquisition efforts. It is possible that the Pact may be attempting to mask their substantial technology targeting effort in this area by spreading the acquisitions across many separate cases.

The integration of computer control technology into defense industrial production can provide substantial Pact defense savings in aircraft, naval, and land-based weapon system design, production, and modification/maintenance. Areas which hold particularly important potential savings include tactical and strategic aircraft production, tank production, and submarine and surface ship production. These are the most likely military beneficiaries of APC technology. In addition, the transfers in this cluster ultimately would assist the non-military sectors of the Soviet economy, providing a much

SOVIET UNION LIKELY WILL REVERSE ENGINEER THEIR WAY INTO AUTOMATED PRODUCTION AND CONTROL

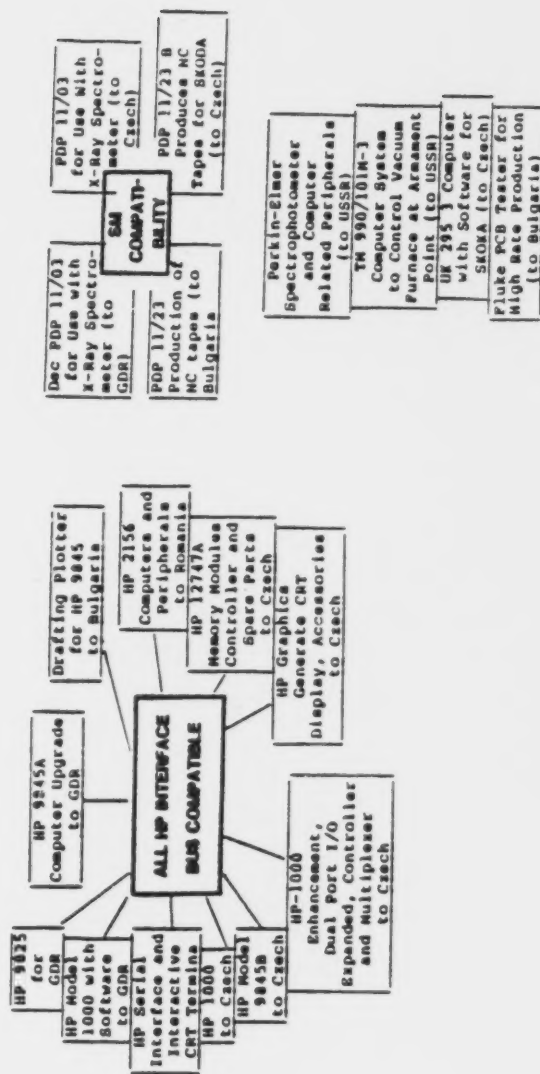


Figure 3-1

AN EXAMPLE OF SOVIET TECHNOLOGY "CLUSTERING"

stronger overall industrial base. The Soviet and Warsaw Pact leaders fully recognize the potential of an automated production capability. To this end, the Bloc (through CEMA) has assigned specific APC development responsibilities to Czechoslovakia, the USSR, the GDR, and Bulgaria.

Soviet and Bloc acquisition attempts in the APC cluster broadly reflect the CEMA-assigned responsibilities. For example, of the 20 significant cases in this target group, eight were intended for Czechoslovakia, four for Bulgaria (probably the closest Soviet satellite in terms of intelligence collaboration and technology targeting), three for the GDR, and two directly for the USSR. At least seven cases involve related elements from one particular series of advanced APC technology from a world-leading U.S. manufacturer. Such factors strongly indicate a coordinated reverse-engineering effort for that product line. At least two of the 20 cases have been identified as intended for direct use in Pact military production of armored vehicles. The overall acquisition efforts in this target group clearly focus on improving the Soviet/Pact machine tool and machine building industries. These improvements would be obtained largely through reverse-engineered products and technology, although some acquisitions involve direct production line use and data management.

APC technology invariably is linked to the machinery being controlled. Given this, we note few examples of Warsaw Pact efforts to acquire Western production machinery through CoCom or CCL channels (with no key cases identified in these channels in 1983 and early 1984). This departure from previous acquisition practice may indicate an acquired self-sufficiency in Pact production machinery, a turning to sources outside of CoCom for technology, increasing clandestine acquisition efforts, or some combination of these changes.

The Soviets are a world leader in manufacturing production machinery (such as lathes, tooling, etc.), but this equipment generally is considered to be less sophisticated than its Western counterparts. In 1982 there were several acquisition efforts in machinery technology through Austria, Switzerland, and Sweden, possibly indicating an emphasis on non-CoCom channels. The Soviets also appear interested in robotics from Japan. In general, Western APC technology has significantly influenced Soviet and Warsaw Pact developments.

The impact of improved APC technology on the Soviet machine tool and heavy machinery sectors can be quite large, even by conservative estimates. For example, some recent Soviet estimates claim that between 20 and 25 million workers may be "released" from labor through mechanizing their machine building sectors. This labor savings translates into productivity increases per machine control unit averaging on the order of 15 percent.

To assess the potential impact of technology transfer activities in this Soviet priority target group, we divide the cluster cases into two types -- those most likely intended for direct use in manufacturing lines, and those suited to reverse engineering (and longer-term production benefits).

As previously mentioned, two of the cases cited end users known to be engaged in Soviet and Pact armored vehicle production. These cases were assessed according to reasonable estimates of potential direct military savings to the Soviets, should the acquisition attempts have proven successful. Other cases involved direct use at major production facilities that may provide some support to the military, although direct ties could not be established. Many of the remaining cases involved a particular product line in APC technology.

It was determined that the most likely application of these items would be reverse engineering, with the intent of improving the machine-tool and machine-building sectors as a whole. Given the military importance of this technology, it is assumed the Soviets would funnel initial successes into military savings, gradually spreading the results throughout their economy. The results shown below consider only the likely military savings. (See Figure 3-2.)

YEAR	1985	1986	1987	1988	1989	1990	1991
MINIMUM SAVINGS (\$M)	258	763	1265	1511	1249	798	248
MAXIMUM SAVINGS (\$M)	469	1548	2586	3120	2539	1516	496

TOTAL: \$6-\$12 BILLION

Figure 3-2

AUTOMATED PRODUCTION AND CONTROL

Several of the cases involved Soviet application of automated systems to planning, data management, and/or production inventory control. These items relate to Soviet national level efforts to implement their strategy to develop automated management systems ("ASU"). The Soviet military, KGB, and Communist Party each probably have their own ASU programs. The Soviets believe they may obtain substantial savings in planning and management time by incorporating computers. (For example, some Soviet estimates say that 40-70 percent of their middle-to-low level management time is spent in manually processing paper-work.)

3.2.1.2 Telecommunications

Summary ConclusionsTelecommunications

- Soviet/Eastern European activity in the telecommunications cluster is high. The urgent Soviet need for telecommunications improvements has resulted in a situation where most developments are based on Western technology.
- The significant cases included three potential direct uses of telecommunications technology and two kinds of indirect uses.
- Hungary, Czechoslovakia, USSR, Bulgaria, and Romania, in that order, were the leading acquisition nations among the key cases.
- Only Pact countries requested analysis and measurement technology, whereas the USSR requested only design and production technology, technology, with reverse-engineering potential.
- The Soviets attempted to acquire technologies including circuit switching technology, packet switching equipment, modems, multiplexers, and microwave antennas.
- The Soviets lag the West by more than 5 years in microwave technology, especially in factory production of quality devices.

The Soviet Ministry of Communications administers the USSR national communications network, giving the Ministry of Defense priority access to the public switched network. Unlike tactical military communications, which must be physically rugged, strategic military communications differ from their commercial counterparts mainly in the need to operate in a hostile electronic warfare (EW) environment. Strategic communications networks therefore use commercial communications networks, with special modifications for communications security (COMSEC) and electronic counter-countermeasures. There is evidence for this practice by U.S. and Soviet experience. Improvements in Soviet national communications networks or in electronic warfare research and design can have, therefore, significant military impact. Worldwide telecommunications technology is advancing rapidly due to increases in computers, software, and digital technologies. Recognizing their own deficiencies in these areas, the Soviets continue to turn toward Western technology to improve their own strategic communications nets and improve their telecommunications R&D. Previously acquired Western technology is believed to have significantly improved Soviet command, communications, and control systems.

Although it seems technical, this is easily understood. For example, the Soviet national communications network is connected to its East European allies via an international gateway transit. At least 12 of the 15 tertiary transits in this system are of Western origin -- ostensibly purchased for use in the Summer Olympics of 1980. All known tertiary level transit switching products are designed to allow stored program controlled (SPC or computer controlled) upgrade. If computers (SPC) were added, the military communications effects would be substantial.

Soviet Bloc acquisition activity in this target group is high (16 cases out of 79), supporting the contention that telecommunications is a targeted Soviet/Bloc acquisition area. Soviet acquisition efforts included:

- The attempted purchase of electronics components for use in a branch exchange system. The cases involved some sophisticated technologies: microcircuits, peripherals and other electronics for an SPC switching exchange in one case and a variable-use multiplexer technology in another. Direct contributions to military communications networks, including machine-to-machine digital transmission, would have been possible.
- The attempted purchase of communications systems analyzers and multichannel analyzers. These effective, compact systems could make direct contributions to the development of networked, tactical intelligence and EW/ECM systems, as well as to basic telecommunications R&D.

The bulk of the remaining cases involve research and development instruments (e.g., impedance analyzers, frequency standards, etc.) all having military utility in producing Electronic Warfare and Electronic Intelligence equipment. Soviet instrumentation is known to be weak. Their 1983-84 acquisition attempts may indicate a push to upgrade the R&D capabilities necessary to improve their strategic telecommunications nets. Over half of the cases were to be shipped to Hungary, suggesting a Hungarian emphasis in this area. (See Figure 3-3.)

YEAR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MINIMUM SAVED (\$M)	2.0	6.1	10.1	11.6	8.9	4.7	1.7	1.0	1.1	.6
MAXIMUM SAVED (\$M)	20.1	23.2	20.0	16.8	13.6	9.2	5.0	2.9	1.75	.6

TOTAL SAVINGS: \$47.8-\$113.2 MILLION

Figure 3-3

TELECOMMUNICATIONS TECHNOLOGY

3.2.1.3 Microelectronics and Semiconductor Production Technology

Summary ConclusionsMicroelectronics and Semiconductor Production Technology

- The high acquisition activity in this technology appears linked to Soviet-sponsored efforts to upgrade Bloc-wide microelectronics production capabilities. Hungary made most of the requests for this technology.
- The key cases evidenced a notable lack of requests for wafer fabrication technology, which almost certainly would be denied through CoCom or CCL channels. The majority of cases involve test equipment, embargoed silicon wafers (production volumes) and military-specification integrated circuits, indicating possible military production and material shortages. The equipment would probably be used to develop experimental prototypes of devices meeting military specifications.
- The Soviets are not only encouraging Medium Scale Integration (MSI) production in the Eastern Bloc, but are also selling them production machinery. Soviet machinery is weak in test instrumentation, and Pact requests seem to reflect this weakness.
- A Bloc-wide MSI-production capability will free Soviet lines for more advanced device production. Western test instrumentation will most certainly assist production yields and quality.
- The net impact of these proposed transfers could have been significant.

Successful Soviet technology transfer efforts in the past are believed to have been the basis for much of the modern day Soviet military microelectronics capabilities. Today, the Soviet Union is deploying more kinds of devices and more complex integrated circuits than ever in its history -- possibly demonstrating rapidly increasing technical expertise (or production requirements) in this very critical technology. The East European nations still lag Soviet production capabilities. Recently, East European countries announced efforts to upgrade their microelectronics base through importing Soviet production technology. The 1983-84 key cases in this target group seem to reflect this evolving situation. Much of the acquisition activity originated from the Bloc. The requests for equipment or materials are in areas in which the Soviets are believed to remain weak.

The key cases contained a notable lack of wafer fabrication technology. This lack does not necessarily imply a lack of Soviet interest in advanced Western fabrication equipment, however. It most likely reflects the fact that the

moderate fabrication requirements of the Bloc (Medium Scale Integration (MSI) Complexity) is now easily satisfied by Soviet origin fabrication equipment.

The Soviets have historically used illegal channels to acquire the most advanced Western fabrication technology. Current Soviet efforts to acquire advanced Western fabrication technology (e.g., through recent highly publicized attempts involving South African middlemen) indicate that Soviet illegal acquisition activities remain strong.

The 1983/84 Soviet/East European acquisition attempts demonstrate micro-electronic production problems. For example, the Soviets made a major effort to purchase production quantities of embargoed electronics grade silicon wafers -- a critical material in IC production. They made other efforts to obtain Western IC's meeting stringent military specifications -- these have clear military impact.

Calculation of the potential economic costs savings from these cases is based on the short-term savings which result from the boost these technologies give to a struggling production base. (See Figure 3-4.) The assessment of these cases generally assumes an economic impact caused by direct production line use or military R&D savings. Two cases appeared best analyzed for their reverse engineering impact.

YEAR	1985	1986	1987	1988	1989	1990
MINIMUM SAVINGS (\$M)	190	--	--	--	--	--
MAXIMUM SAVINGS (\$M)	380	10.4	20	52	20	10.4

TOTAL SAVINGS: \$190-\$493 MILLION

Figure 3-4

MICROELECTRONICS/SEMICONDUCTOR
PRODUCTION TECHNOLOGY

3.2.2 Moderate Acquisition Activity Clusters

3.2.2.1 Computer Technology

Summary Conclusions

Computer Technology

- There was an acquisition emphasis on Western supermini- and microcomputers, including disk drives and other peripherals, and particularly "VAX-like" systems. The Pact dependency on Western technology is increasing as computer systems grow more complex.
- The acquisition attempts were focused on improving performance parameters (e.g., speed, memory, software development, networking, etc.).
- Current Pact computer capabilities make reverse engineering or direct use of Western technology more attractive than indigenous development and production. The Pact may save 3-5 years in supermini- and micro-computer development through technology acquisition from the West.
- Transferred computer technology from the 1983/84 cases could have had broad mission area impacts in C³, signal processing, navigation and guidance, and logistics. The net impact could have been high.

Soviet and Warsaw Pact acquisition efforts in the computer cluster were at moderate-to-high levels, given our sample of key cases from 1983/84. A clear emphasis was placed on acquiring Western supermini- and microcomputers, including important related peripherals (such as disk drives). These systems appeared to focus on improving Soviet computing parameters (e.g., speed, memory, software development, telecommunications networking, etc.). The cases showed several repeated efforts to acquire "VAX-like" technology.

The Soviets have successfully copied Western computer technology in the past and are continuing to do so. Various estimates indicate the Pact can save 3-5 years in supermini- and microcomputer development through technology acquisition from the West. The transfer attempts include fast 32-bit machines which could ultimately affect Soviet computing capabilities in C³, signal processing, navigation and guidance, and logistics. The potential military savings is based primarily on R&D savings. (See Figure 3-5.) The overall operational impact of the potential transfers is quite high.

YEAR	1985	1986	1987	1988	1989
MINIMUM SAVINGS (\$M)	.5	1.50	2.50	2.50	--
MAXIMUM SAVINGS (\$M)	2.5	7.50	7.50	3.00	2.00

TOTAL SAVINGS: \$7-\$22 MILLION

Figure 3-5

COMPUTER TECHNOLOGY

Small Western computer networks incorporated into Warsaw Pact tactical C³I systems could improve their command post operational flexibility -- flexibility so vital in a crowded electronic warfare environment. For example, large, centralized command posts are highly vulnerable to tactical nuclear weapons. By incorporating commercially-available Western compact computers, the Warsaw Pact may provide a much wider spacing of their command post cells -- thereby reducing that vulnerability.

Fast 32-bit supermini-computers have potential for:

- Direct military use in SIGINT, as well as
- Substantial reverse engineering potential sufficient to transfer 32-bit architecture technology.

This computer technology could significantly improve Soviet and Warsaw Pact technology through its 32-bit architecture and its signal intelligence applications. The Soviets and Pact historically have used Western computer technology for reverse engineering purposes. This case probably reflects a continuation of that practice.

3.2.2.2 Sensor Technology

Summary ConclusionsSensor Technology

- Analysis of this target cluster shows attempts to acquire advanced, embedded signal processing technology both through third-country diversions of dual-use end items, and through direct acquisition attempts.
- Little Soviet open literature appears on signal processing topics, indicating this important work is almost certainly classified in the USSR.
- Acquired Western systems are probably not intended for direct use, but would augment USSR systems development instead.
- The sensor/signal processing technology targeted is vital to many Soviet military priorities, e.g., anti-submarine warfare (ASW), stealth, and weapon targeting. This technology is a current Soviet weakness. Acquisition of this cluster technology could have cut Soviet ASW R&D time by 3 to 5 years.

There was moderate activity within the Sensor Technology target group (7 of the 79 high impact cases). CoCom and CCL cases within the cluster show repeated Soviet and Eastern Bloc attempts to acquire advanced, embargoed sensor processing technology. Most of these attempts occurred through traditionally non-military sectors. The majority of activity emphasizes the signal processing aspects of sensor technology (rather than detectors, IR components, or radar receivers), an assessed Soviet weakness.

High-quality, flexible, and compact sensor signal processing capabilities are vital to many Soviet military priorities including anti-submarine warfare, stealth, weapon targeting, and stand-off weapon applications. Although embedded technology in the systems requested by the Soviets and Pact could be employed directly in military signal processing applications, their most likely use is for reverse engineering, study, or systems integration. The inherent sensor processing technology could augment ongoing Soviet research and development efforts in many top priority military mission areas.

The potential for Soviet gains through access to Western signal processing hardware has been documented. It has resulted in embargoes on explicit signal processing systems to proscribed nations. It is in this technology that the sensor cluster illustrates Soviet acquisition strategies. The Bloc holds almost no hope of obtaining advanced signal processing systems, FFT processors, array processors, spectrum analyzers, image processors, acoustic holographic analyzers, and other components through license requests from the West.

Since the Pact cannot obtain actual signal processing equipment, the majority of the cases assessed in this cluster consisted of non-military or dual-use equipment. This equipment embodies sophisticated signal processing technology. The Bloc made repeated attempts to acquire medical diagnostic systems -- from angiographic analyzers to state-of-the-art image and ultrasound scanners. Without exception, the cases selected as sufficiently significant included systems containing highly advanced signal processing components, image-processors, FFT array processors, and spectrum analyzers.

Access to this equipment provides more than actual hardware for study. The systems integration of these very advanced medical imagery tools offers powerful insights into electronic systems integration, trouble-shooting of design limitations, and innovative use of peripherals. They provide examples of smoothly working, well-designed hardware. The components themselves would fill gaps in ongoing Soviet signal processing development efforts. In addition, ultrasound and other scanners, when exported, are usually accompanied by technical data, manuals, system diagrams, maintenance protocol and quite often, by company representatives who provide "start-up" know-how. Figure 3-6 provides the potential military savings from these cases.

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994
MINIMUM SAVINGS (\$M)	4.2	12.5	20.8	29.2	37.5	45.8	41.7	25	8.3
MAXIMUM SAVINGS (\$M)	10.4	31.3	52.1	72.9	75	58.3	41.7	25	8.3

TOTAL SAVINGS: \$225-\$375 MILLION

Figure 3-6

SENSOR TECHNOLOGY

3.2.2.3 Electro-Optics and Optoelectronics

Summary ConclusionsElectro-Optics and Optoelectronics

- The acquisition activity in this technology target cluster was moderate (4 out of 79 cases).
- Repeated acquisition attempts for certain technologies and products came from the USSR or closely aligned countries, e.g., Bulgaria, Poland.
- The Bloc acquisition strategy for this area is one focused on precision instrumentation and substrate materials crucial to optics R&D. The target technology includes multichannel analyzers, microdensitometers, high purity materials, and pulse amplifier discriminators.
- End items in all cases were destined for Bloc facilities for R&D; a major Soviet military R&D center was identified in at least one case.
- In optoelectronics R&D, the Soviets have targeted technology of high military utility, including lasers, fiber optics, and optical data processing, which could have resulted in significant R&D savings.

Soviet and Warsaw Pact attempts during 1983 and early 1984 to acquire electro-optic and optoelectronics technology showed moderate acquisition activity. The CoCom and CCL requests for this technology came through the USSR or closely aligned countries, (e.g., Bulgaria, Poland).

From the cases analyzed, the Soviet/Warsaw Pact acquisition strategy appears to focus on precision instruments and high quality substrate materials. The types of instruments requested, often in repeated attempts, include multichannel analyzers and microdensitometers. There is also evidence of the need for high purity optical materials. Western experts in optoelectronics assess that the most critical aspects affecting technological progress are material quality (and availability) and accurate measurement and testing. Such precision instrumentation and high purity materials are known to be scarce in the Warsaw Pact, thereby limiting their R&D efforts. In fact, it would be difficult for the Soviets to acquire any of this instrument technology from a non-CoCom source.

All of the stated end-users are Bloc science and technology facilities. The end-uses range from basic research in crystallography to a product demonstration at a bread conference in Moscow. These acquisitions could have provided significant savings to several Soviet optics R&D efforts.

One of the cases assessed was headed for a known Soviet military R&D center. It is assessed that the instrumentation and materials in this cluster requested could have been incorporated relatively easily into the overall Pact optoelectronics and optics R&D effort. Figure 3-7 provides the estimated potential military savings from these cases.

YEAR	1985	1986	1987	1988	1989
MINIMUM SAVINGS (\$M)	0.3	0.9	1.5	1.8	1.2
MAXIMUM SAVINGS (\$M)	1.8	5.4	6.0	2.1	1.2

TOTAL: \$6-\$18 MILLION

Figure 3-7

ELECTRO-OPTICS AND OPTOELECTRONICS

3.2.2.4 Propulsion and Power Generation Technology

Summary Conclusions

Propulsion and Power Generation Technology

- This technology cluster shows low-to-normal (4 out of the 79 cases) case activity. There is insufficient activity to determine any significant country or technology trends.
- The Eastern Bloc stress on autonomy in this technology area is consistent with activity within CEMA.
- Western transfers consisted mainly of technical data, production know-how, and test equipment.
- A 1984 repeat attempt by Romania to acquire embargoed bearing technology underlines its importance, with probable use in many Bloc applications, including military ones. Romania is thought to be assigned Bloc responsibility for such high quality bearing development.

During 1983 and 1984, the CoCom/CCL cases in the power generation and propulsion target area show low-to-normal activity. There are insufficient cases to determine broad country/technology trends. The low number of significant Western requests would appear to corroborate Eastern Bloc emphasis on autonomy in this cluster.

The 1982 transfers indicate substantial efforts by the Warsaw Pact to improve indigenous power generation, automotive and other vehicular propulsion, nuclear power, and chemical technologies. In the early 1980's, much of this sector's technology was transferred to the Eastern Bloc via non-CoCom countries such as Austria and Switzerland. CoCom/CCL cases for such technology (e.g., petroleum-refining processes, fuel treatment, oil/gas exploration production equipment, and steam generator/electrical power technology) are very often approved owing to availability from non-CoCom sources.

Western transfers of importance consist most often of technical data, production know-how, and test equipment. Two cases of note tend to confirm this observation, one of direct military utility, the other an example of the large economic gains the Warsaw Pact can make through the transfer of Western technology.

It is well known that the Soviets have significant difficulty producing large bandwidth oscilloscopes with delayed sweep flexibility, accuracy, and sensitivity. Their efforts to duplicate Western equipment of this caliber have met with mixed success. Although the bandwidth of the oscilloscope in question is below the CoCom threshold, it does have the delayed sweep capability, and is portable. However, CoCom reserves the right to refuse oscilloscopes with lower bandwidths to certain end-users.

In one case, the stated consignee was involved in the production of solid rocket propellants such as polybutadienes, butadiene polymers, and polyisoprene. The Soviet energetic materials R&D effort is quite large, but has been plagued by inconsistent testing and quality control in the production of these fuels. The equipment could have assisted in efficient design, development, and production of advanced military propellants and propulsion systems.

The Warsaw Pact assigns difficult propulsion technology responsibilities to different member countries. Several references mention Romania's specialization in ferrous metallurgy and rotor bearing technology. In 1983, Romania applied to a U.S. corporation for the transfer of technical data on ball-bearing production to include manuals, layout drawings, process descriptions, and process flow charts. The transaction data also made reference to U.S. assistance in "start-up" procedures in the plant and foreign personnel to be trained in U.S. facilities. The vendor gave no value for the sale. Bearings to be fabricated under this venture were from 30 mm to 130 mm outer diameter and from 10 mm to 60 mm inner diameter. The recipient country consignee expected to produce eight million units per year.

This technical data (used in conjunction with the machines to produce bearing components) could have provided the basis to construct relatively large, high-quality bearings with many military applications. It is our understanding that neither the Soviets, nor Romania, currently has the capability to produce this quality bearing (ISO-P04-5) in these sizes. Such large, high quality bearings could have been used to replace the lower

quality Soviet-made bearings which now reduce Warsaw Pact jet engine performance. Technical analysis indicates that reduced heat and vibration would insure at least a 25 percent increase in Mean Time Between Failure (MTBF) for jet engine accessories using the higher quality bearings.

Since the vendor suggests very high production rates, these bearings could be used in many different applications. In this case, the consignee is the largest bearing manufacturer in the recipient country. The proposed production increase represents a significant part of current national production. Currently, the recipient country exports about one third of its total production, and although some bearings are imported by the U.S., the bulk of the export goes to the Bloc.

Approval of this application, and subsequent export of needed production equipment could have been a significant productivity improvement for the USSR. The recipient country could have become a key source for high-quality ball bearings to meet Soviet military production requirements. There is also a possibility that if Romania's production were not sufficient to meet Soviet requirements, the production equipment could be reverse engineered to establish a parallel facility in the USSR. Figure 3-8 provides the potential maintenance cost savings from improved MTBF for Pact military aircraft.

YEAR	1985	1986	1987	1988	1989	1990	1991
MINIMUM SAVINGS (\$M)	4	11	22	45	27	--	--
MAXIMUM SAVINGS (\$M)	4.96	13.88	26.8	52.6	30.8	18	9

TOTAL: \$136-\$155 MILLION

Figure 3-8

POWER GENERATION AND PROPULSION

3.2.2.5 Other Technologies

Summary ConclusionsGenetic Engineering and BW/CW

- All 3 cases involve repeated attempts to obtain sophisticated R&D instruments with BW/CW applications.
- Acquisition could have enhanced Soviet BW/CW programs over the next decade.

The Soviets augment their own chemical weapons programs by actively pursuing Western developments in BW/CW and genetic engineering. Western research and development in gene splicing technology, recombinant RNA/DNA, and toxic substances are all targets of Soviet acquisition strategies. Soviet technology requirements include genetic production technology (including R&D) and sophisticated laboratory instrumentation.

One particular case is noteworthy: a Warsaw Pact country attempted to purchase eight state-of-the-art spectrophotometers which are used in advanced biological and chemical warfare agent analyses. The Warsaw Pact country attempted to acquire these instruments through four separate 1983 license applications, each stating an alleged end-use as laboratory educational tools. Based on this country's previous procurement patterns in similar equipment, it is believed that some or all of these instruments would be used for military R&D in chemical and biological warfare agents. Eight such spectrophotometers are sufficient in number to be effective in military R&D.

Summary ConclusionsTransportation Technology

- Acquisition activity in this technology was low. Patterns are difficult to assess owing to the small number of cases.
- Acquisition attempts reflect the Soviet national-level interest in automated control and management systems. The limited data fits Soviet priorities for CAD/CAM and logistics support systems. The cases reveal evidence of repeated attempts to acquire Western data base management systems for transportation logistics.

Soviet emphasis on acquiring technologies in the transportation area appears to be lower than other cluster groups (2 out of 79 cases). Although it is

difficult to make generalizations across such a sparsely populated cluster, the activity does reflect the Soviet national level program to acquire automated control and management systems, and supports the previously discussed acquisition patterns for this technology area.

The activity within this cluster includes many cases supporting a joint venture with Romania. The U.S. was to supply two mainframe computers with aircraft computer-aided design (CAD) and computer-aided manufacturing (CAM) capabilities. There were also repeated attempts to acquire an air freight data management and logistics support computer for Moscow's airport. The cases of interest and their ramifications are discussed below:

- The original intent of the joint venture was to assemble a Western design commercial aircraft at Bucharest. It is assumed that the experience gained in the joint venture could provide the Romanians with the technical expertise required to construct a medium-range military cargo aircraft. This aircraft could be prototyped by 1990 and in production by 1993. Without the transferred technology, a similar capability would not evolve until well after the year 2000. For purposes of this analysis, we assume a total production of 200 military transport aircraft by the mid-1990s. Although the improved troop mobility and logistics provided by the new design cargo aircraft would not directly affect U.S. operational plans, it would free Soviet defense resources used to subsidize the Romanian military in this area. In addition, the Romanian industrial productivity gains (through labor and metal scrap reduction) could be translated into Soviet military budget savings.
- Intelligence sources have assessed a significant Soviet operational deficiency in military transport logistic support. It is believed the Soviets do not have an infrastructure of spares, maintenance centers, resource mobility, nor the logistical network to support effective military operations. The requested air-freight management computer, designed to handle air bills automatically, was to operate out of the Moscow Airport. It is suitable for use in Soviet military logistics to assist large military operations.

Figure 3-9 provides the potential estimated military savings.

YEAR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
SAVINGS (\$M)	.014	.028	.07	.028	.014	--	--	--	6.4	19.2	32.0	19.2	6.4
TOTAL: \$83.3 MILLION													

Figure 3-9

TRANSPORTATION TECHNOLOGY

Four target groups (Manufacturing, Structural Materials, Directed Energy and Weapons) had no identified key cases from 1983 to early 1984. One of these, Manufacturing Technology, has already been discussed in relationship to Soviet and Pact activity and is acquiring Automated Production and Control technology. A summary of this area is as follows:

Summary ConclusionsManufacturing Technology

- The lack of acquisition activity in these technology clusters may indicate self-sufficiency, clandestine acquisition, or a use of non-CoCom sources.
- In contrast, 1982 Soviet acquisition activities with Austria, Switzerland, and Sweden were significant, as was robotics interest with Japan.

3.3 SUMMARY AND CONCLUSIONS

The discussion of the previous section highlighted the major findings and conclusions for 14 technology clusters, derived from a thorough examination of the 79 key cases. The aggregate potential savings that could have accrued

to the Soviet military budget from transfers in all technology target groups from cases having quantifiable impact are summarized in Figure 3-10. Each pair of yearly figures provides the aggregate minimum and maximum values for that year. The total minimum-maximum values, determined by adding the ranges for each target group, are given in the accompanying table.

The Soviet military could have saved between \$6.6 and \$13.3 billion between 1985 and 1997 in defense costs through their attempted Western technology acquisitions in 1983/84. These savings come largely through direct military weapon production efficiencies that could have been acquired through exploitation of critical Western APC technology. Not included in this calculation are the potentially significant military operational benefits resulting from such improved weapons. These second order effects may in fact be much more important than the primary savings.

The U.S. defense budget costs in response to such Soviet defense budget savings are shown in Figure 3-11. These cost estimates were calculated under the assumption that the West would respond in kind to what is effectively an increase in Soviet defense spending. These costs would be expected to show up in Western defense budgets several years after the actual savings. Although the West may choose not to make such a commitment, these costs do provide perspective on the magnitude of the impact on Western defenses of the Soviet defense budget savings.

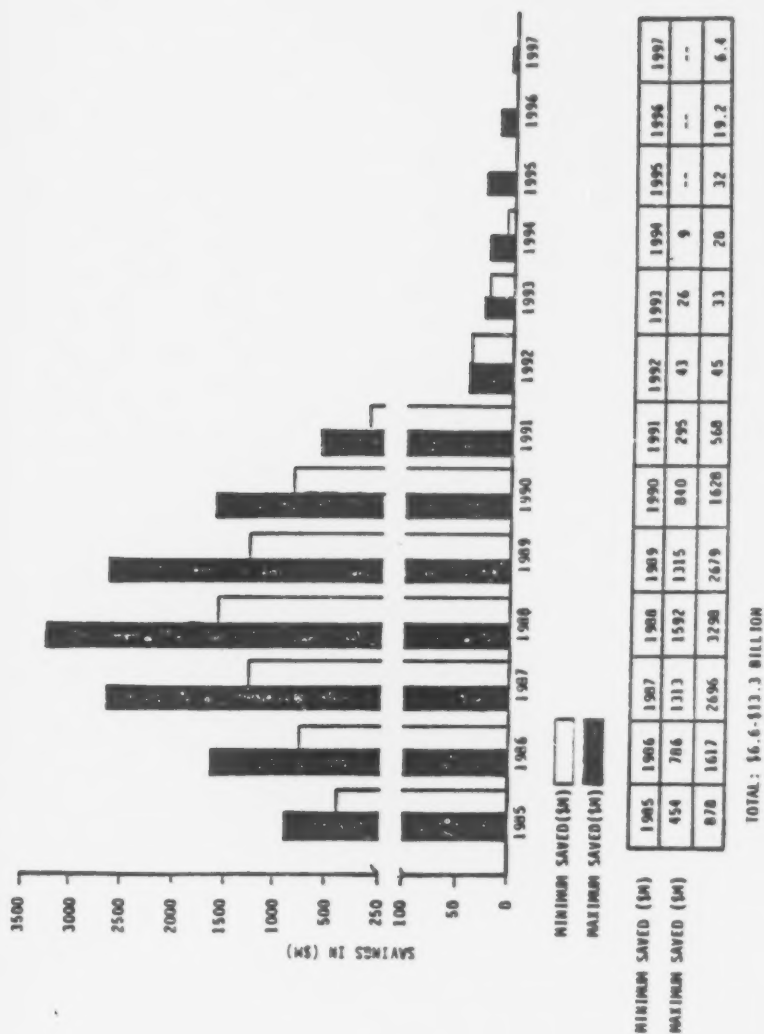


Figure 3-10

TOTAL POTENTIAL SOVIET MILITARY SAVINGS (1985-1997)

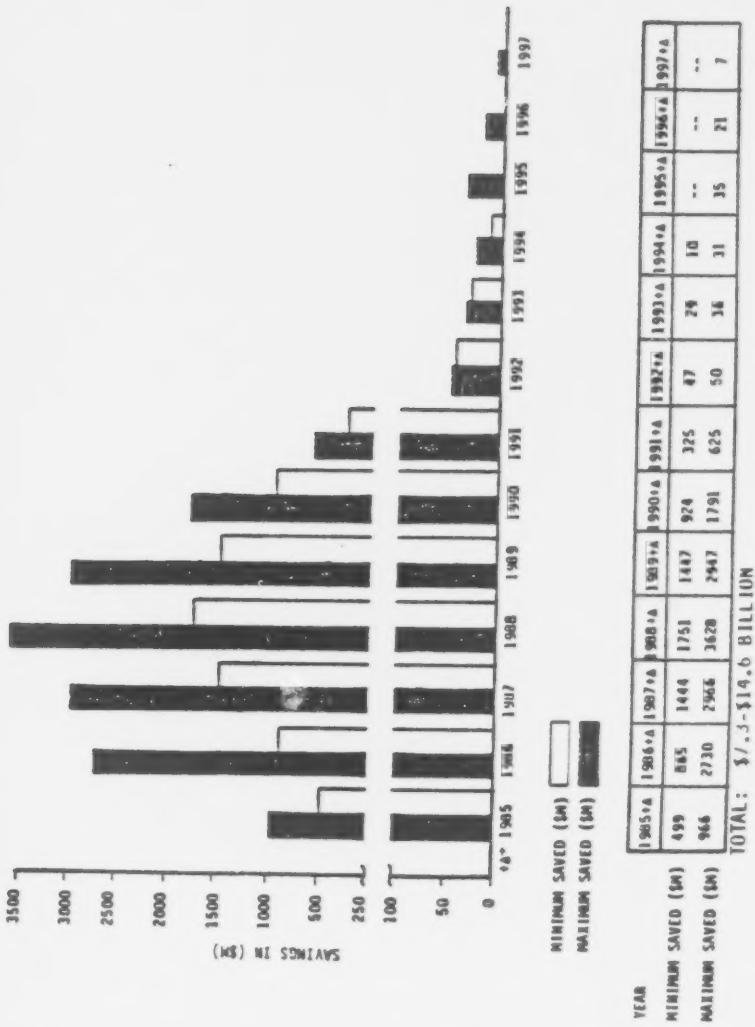


Figure 3-11

TOTAL POTENTIAL U.S. DEFENSE BUDGET COSTS (1985-1997)

CHAPTER 4

IMPACT ON SOVIET OPERATIONAL CAPABILITY
AND PRESSURES FOR WESTERN RESPONSES

4.1 INTRODUCTION

4.1.1 Characteristics of Future Warfare

The listing of major Soviet military systems in Figure 1-1 reflects the diversity and aggressiveness of their military acquisition program. The Soviet military-industrial complex is highly organized and motivated to develop and acquire new military systems while, at the same time, making improvements to existing systems. The mix of weapons which they will actually develop is a function of their perception of the nature of future warfare, many aspects of which are likely to change during the latter part of this century. The increasing diversity and complexity of future military operations results in a range of scenarios which, upon review and comparison, have some common characteristics in terms of force capabilities, weapon systems, and support requirements. Briefly, these characteristics are:

- Rapid response. Forces must be quickly deployable, including mobilized reserve units. Combat support units must be capable of rapid resupply. Mobility of supplies and in some areas, supply storage, is essential.
- Enhanced Mobility. Forces must be able to extend surveillance into enemy territory and move quickly to seize the initiative and exploit enemy weapon points.
- Expanded Battle Dimensions/Space. Improved surveillance, rapid command, control, and communication (C³) processing, and extension of sensor and weapon ranges will continue to expand the tactical commander's horizon.
- Warfare Automation. Future scenarios all stress increased use of automation; high-speed information processing and computer networking; unmanned vehicles for surveillance, weapons carriage, and attacks; automatic weapon target assignments; and use of simulators for training.
- Increased Lethality. Improved performance, reliability, and flexibility of precision guided munitions (PGM), when combined with the capability to concentrate fire, result in combat which is intense, deadly, and of relatively short duration. This lethality generates strong requirements for a host of offensive and defensive capabilities for the USSR: long-range targeting, stealth, dispersal of weapons, redundant C³, cover and deception, counter-C³, and other sophisticated electronic warfare devices for both offensive and defensive operations. This environment will favor the side with the ability to obtain superior combat information, and to take quick action based on this information.

- Information/Data-Intensive Warfare. Current C³ and intelligence systems can saturate commanders with all kinds of "data"; future systems promise even more. The processing, analysis, and priority ordering of raw data thus will become a critical function in future conflicts. The capability (capacity and speed) to handle data will increase in importance with more platforms having multimission capability.
- Accelerated System Obsolescence. The high cost and complexity of modern weapon systems make rapid replacement infeasible or simply unaffordable. Rapid advances in technology can render a current weapon (or tactic) obsolete, particularly if it has experienced engineering, funding, or excessive bureaucratic delays in development, procurement, and deployment. A branch of technology development concerned with incorporating growth capability in weapon system design assumes increasing importance if the system is expected to have a useful service life of several decades. With a 20 to 30-year life expectancy, this issue is particularly vexing for military platforms such as ships.

4.1.2 Sensitivity of Bloc Weapons to Target Technologies

Soviet requirements for new weapons or major modifications to existing weapons result from their perception of their own strengths as well as of Western military initiatives. Such Soviet military systems provide the basis for understanding the potential impact of specific Soviet technology acquisitions. The relationship of the 14 technology targets discussed in Chapter 3 with Soviet weapon system developments is shown in Figure 4-1. The rapidly changing nature of warfare and of military systems to support such warfare will likely make future technology acquisition efforts by the Soviets even more important than over the last twenty years.

The remainder of this chapter discusses the implications of Soviet military improvements which could have resulted from potential 1983 and 1984 technology acquisitions. These Soviet military improvements are analyzed in the context of the operational balance in selected mission areas. Analysis of the 79 key cases for 1983 and 1984 reveals several basic characteristics of Soviet acquisition efforts. These characteristics are:

- Selectively targeted military manufacturing improvements;
- Direct assistance to specific military research and development efforts;
- Militarily critical technology "pace-keeping;" and
- Short term problem solving in military-related production.

Figure 4-2 summarizes the military significance of the 1983/1984 cases by technology group.

SOVIET SYSTEM	TECHNOLOGY TARGETS										
	AUTOMATED PRODUCTION AND CONTROL	MICROCIRCUIT TECHNOLOGY	TELECOMMUNICATIONS	COMPUTERS	SENSORS	ELECTRO-OPTICS AND OPTOELECTRONICS	PRODUCTION AND GENERATION	GENETIC ENGINEERING	TRANSPORTATION	GUIDANCE AND NAVIGATION	MANUFACTURING
STRATEGIC											
ICBM	o	o				o		o	o	o	o
SSBN	o	o		o							
SLBM	o	o				o		o	o	o	o
Bomber	o		o	o	o	o		o		o	o
SAMs	o	o		o	o					o	o
Ballistic Missile		o	o	o						o	o
Defense											
Anti-Satellite	o	o	o	o	o	o				o	o
Cruise Missile	o	o	o	o	o	o			o	o	o
Space Systems	o	o	o	o	o	o		o	o	o	o
TACTICAL											
Land Forces											
SAMs (Including Naval)	o	o		o	o					o	o
Tanks	o		o			o		o	o	o	o
Artillery	o		o			o		o	o	o	o
Infantry Combat Vehicle	o					o		o	o	o	o
Anti-Tank Guided Missiles	o	o		o	o						o
Attack Helicopters	o		o		o	o		o	o	o	o
Chemical Warfare	o			o	o					o	o
Tactical Ballistic Missile	o	o		o	o			o		o	o
Air Forces											
Fighter/Attack Aircraft	o		o	o		o		o	o	o	o
AWACS	o	o		o	o					o	o
PQMs	o	o		o	o			o	o	o	o
Air Life	o					o		o	o	o	o
Naval Forces											
SSNs/SSBNs	o		o	o		o		o	o	o	o
ASW	o	o		o		o		o	o	o	o
Sea-Based Air	o		o	o	o	o		o	o	o	o
Surface Combatants	o		o	o	o	o		o	o	o	o
Cruise Missiles	o	o		o	o			o	o	o	o
Mine Warfare	o		o	o		o		o	o	o	o
Amphibious Warfare	o		o	o		o		o	o	o	o
C3I											
Communications	o	o	o	o					o		o
Command and Control	o	o	o	o					o		o
ECM/ECM	o		o	o					o		o
Surveillance and Reconnaissance	o		o	o	o				o		o
Early Warning	o		o	o	o				o		o

KEY
o Improvements in this technology target are important to success in future weapons/systems of this kind.

Figure 4-1

LINKAGE OF SOVIET SYSTEMS WITH TECHNOLOGY TARGETS

Automated Production and Control Technology

- Significant impact on strategic weapon systems productions (e.g., strategic aircraft, submarines, etc.)
- Very large Soviet defense budget savings

Telecommunications Technology

- Assist in improved Pact networking (C³)
- Improved telecommunications R&D instruments -- important for robust systems for the future
- Supporting technology for EW R&D in at least three distinct areas

Microelectronics/Semiconductor Technology

- Significant assistance for military IC production (particularly for faster production of more complex parts)
- Cases showed large potential impact for systems with high production quantity (e.g., surface-to-air missiles)

Computer Technology

- Support of Soviet 32-bit supermini-computer R&D
- Compact computer and Winchester disc technology for the Bloc

Sensor Technology

- Signal processing technology directly applicable to key military systems (e.g., ASW sensors, radars)
- Lithium niobate materials for military acoustic wave devices

Electro-Optics and Optoelectronics Technology

- Support for fiber optics and optoelectronics R&D

Power Generation/Propulsion Technology

- Solid propellant R&D
- High quality bearing production capability with potential for enhancement of aircraft engine reliability as well as for other military platforms

Genetic Engineering

- Research instrumentation for probable use in Soviet BW/CW R&D

Transportation Technology

- Enhanced aircraft computer-aided design and manufacturing capability

Figure 4-2

MILITARY SIGNIFICANCE OF 79 KEY CASES

4.2 IMPACT IN SPECIFIC MISSION AREAS

Three mission areas are discussed in this section: Anti-Submarine Warfare (ASW), Cruise Missile Defense, and selected aspects of Tactical Warfare. This discussion is not all encompassing but does illustrate the magnitude of the adverse military impact of Soviet technology acquisitions.

4.2.1 Mission Area: Strategic Warfare -- Anti-Submarine Warfare (ASW)

Signal processing technology acquired over the last fifteen years has had a significant effect on improving Soviet ASW sensor capabilities. In fact, there is evidence that past transfers of Western technology have reduced Soviet ASW sensor development time by three to five years. The transfer cases from 1983 and 1984 contain even more sophisticated signal processing technology which potentially could affect Soviet ASW capabilities over the coming 10 years. These technologies, if acquired and fully exploited by Soviet military research and development efforts, could have substantially increased the fraction of early generation Western fleet ballistic missile submarines (SSBNs) jeopardized by Soviet ASW capabilities. The following chart summarizes the qualitative effects of improved Soviet ASW capabilities upon U.S. SSBN Force Deployment.

SOVIET ASW ACOUSTIC SENSOR TECHNOLOGY	RELATIVE FRACTION IN JEOPARDY*	
	Early Generation SSBN	Later Generation SSBN
First Generation	Small	Very Small
Second Generation	Moderate	Very Small
Third Generation	Nearly All	Small

*In selected scenarios

Figure 4-3

POTENTIAL IMPACT OF SOVIET ASW ACOUSTIC SENSOR CAPABILITIES ON U.S. SSBN FORCE DEPLOYMENT

It is in examining the cost of potential Western responses to such improved Soviet capabilities that one can see the magnitude of the Western defense budgetary impact of technology acquisitions by the Warsaw Pact. Figure 4-4 below shows the acquisition costs of certain credible Western responses to the improved Soviet ASW capability (i.e., three to five year earlier deployment of ASW acoustic sensors).

	NET ACQUISITION COSTS
1. Reduce Detectability of SSBN	20
2. Defense of SSBNs In Open Ocean	20
3. Improved SSN Force Penetration of Soviet Controlled Ocean Areas	50
4. Establish Western SSBN Bastion	--

FY 83 Dollars

Figure 4-4

POTENTIAL WESTERN RESPONSES TO IMPROVED SOVIET ASW
CAPABILITY AND THEIR ACQUISITION COSTS (\$B)

4.2.2 Cruise Missile Defense

Cruise missile defense is another area where acquired Western technology can augment important Soviet military capabilities. Western cruise missiles pose a major dilemma to current Soviet air defenses. Difficult to detect, capable of using avoidance measures, and launched from many platforms, such cruise missiles challenge Soviet early warning and ground control intercept (EW/GCI) radars, airborne early warning and control, fighter-interceptor and surface-to-air missile capabilities. Modern cruise missiles have high survivability against the bulk of current Soviet SAMs and existing detection capabilities. But long term concerns are developing over cruise missile survival against new Soviet air defense developments (e.g., newer missiles, improved electronic warfare). In fact, the U.S. has made recent decisions to move to an ALCM-B (Air Launched Cruiser Missile, B Version) sooner than originally planned. This decision is in part tied to Soviet technology advancement derived from Western technology acquisition.

These concerns become especially acute when we consider the impact of the Soviets effectively coordinating their existing radars through the use of sophisticated Western computer networking technology. The incorporation of modern computer networking into existing radars could increase current Soviet cruise missile detection probabilities by several-fold. Since current Soviet computer networking technology is weak, sophisticated Western networking technology is very valuable to the Soviet military. Many recent technology acquisition efforts, including selected 1983/1984 cases, however, could have contributed to the enhancement of Soviet networking capabilities.

Figure 4-5 shows the effect of increasing detection probability on air-launched cruise missile force levels required for a given Soviet probability-of-kill. We see that, by overcoming detection problems alone, the Soviets can force a 75% increase in Western cruise missile force levels, if current effectiveness is to be maintained. Access to Western technology can allow a three year earlier deployment of a well-netted Warsaw Pact EW/GCI radar system.

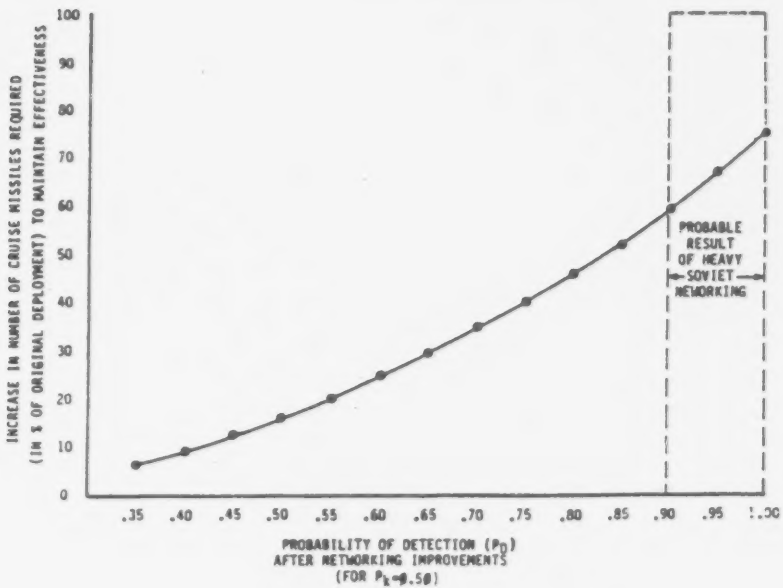


Figure 4-5

THE EFFECT OF DETECTION PROBABILITY
ON CRUISE MISSILE FORCE STRUCTURE

As deployment costs rise, options other than force level increases must be considered. Figure 4-6 below lists the costs of some potential Western responses to improved Soviet cruise missile defenses. Again we see a significant Western defense budget impact caused by Soviet technology acquisitions. Total response costs could approach 30 billion dollars with a first year "increment" at nearly 2 billion dollars.

	NET ACQUISITION COSTS
1. Alter Character of U.S. Cruise Missile	15
2. Defend Cruise Missile Launch Platform	10
3. Attack Soviet AWACS Over Sea or Land	5

*In FY 83 Dollars

Figure 4-6

POTENTIAL U.S. RESPONSES TO IMPROVED SOVIET CRUISE
MISSILE DEFENSE CAPABILITIES AND THEIR COSTS (\$B*)

4.2.3 Mission Area: Tactical Forces

The Soviet threat to Western tactical forces including surface Navies provides another example of the potential adverse impact of Western technology acquisition by the Warsaw Pact. The Soviets can effectively incorporate modern commercial computers into military platform electronics for near real-time data fusion and for multi-platform networks, or high capacity single board computers into missiles. In fact, by effectively exploiting currently available Western commercial computing comparable to those contained in certain 1983 and 1984 cases, the Soviets could achieve over a five year earlier introduction of advanced computing for command, control, communications, and intelligence (C³I) applications.

In the context of Naval forces, such early application of computers could enable increased range for Soviet targeting systems, an improved ability to attack the Fleet at the optimum azimuth, and substantially improved resistance to Western countermeasures (perhaps by an order of magnitude). Figure 4-7 below shows projected Western naval responses to such increased Soviet

anti-ship capabilities and the associated defense budget costs. The West, forced to increase its early warning detection range, jam resistance, AEGIS force level, and point defense capabilities, may pay up to an additional \$50 billion in naval expenditures over the time involved, with a first-year "increment" at more than \$6 billion.

	NET INCREASE IN ACQUISITION COST
1. Increase Early Warning Detection Range and Jam Resistance (e.g., Through Deployment of a New Sensor)	10
2. Increase Lethality at Long Stand-Off Range (Mach 4-6 Intercept Missile; Expendable Mainbeam Jammer)	5
3. Counter Long Range ASCMs (Sophisticated Decoys)	1
4. Increase AEGIS Assets (More AEGIS Ships Per Battle Group; Increased Capabilities for AEGIS)	10
5. Better Point Defense (High Performance Missile; Reliance on Higher Risk Weapon Concepts)	15

Figure 4-7

PROJECTED WESTERN RESPONSES

The Soviets could also exploit such Western computing in other C³I applications supporting tactical warfare.

4.3 SUMMARY OF THE MISSION AREA IMPACT

Figure 4-8 summarizes the mission area impact of the improvements to Soviet military capability attributable to the 1983/84 cases analyzed. As noted, the adverse impact of improvements in certain technologies (e.g., automated production and control technology and telecommunications) is very broad.

MISSION AREAS	AUTOMATED PRODUCTION AND CONTROL	TELECOMMUNICATIONS	MICROELECTRONICS	COMPUTER TECHNOLOGY	SENSOR TECHNOLOGY	OPTOELECTRONICS/ ELECTRO-OPTICS	GENETIC ENGINEERING	POWER GENERATION AND FUEL BOM	TRANSPORTATION	1983/84 OVERALL
STRATEGIC WARFARE	H	H	L	M	H	L	L	L	L	M
NAVAL WARFARE	H	H	H	M	M	M	L	M	L	H
LAND WARFARE	H	H	M	M	M	M	L	H	L	H
AIR WARFARE	H	H	H	M	M	M	L	M	L	H
C ³ I	L	H	H	H	H	M	L	L	L	H
MILITARY SUPPORT/ LOGISTICS	H	H	H	M	L	L	L	M	L	M

KEY: Potential contribution to Soviet operational capability in this mission area could have been:

H

High

M

Medium

L

Low

Figure 4-8

ADVERSE IMPACT OF KEY CASES ON THE MILITARY BALANCE
IN A MISSION AREA CONTEXT

The Western defense budget costs associated with such degradations in the military balance could have been phenomenally large.

Chapter 5

CONCLUSIONS AND FUTURE TRENDS

5.1 CONCLUSIONS OF THE PILOT STUDY

5.1.1 Impact on Soviet Capabilities in Targeted Technology Areas

The Department of Defense has a growing concern that the negative effects of successful acquisition of Western goods and technology by the Warsaw Pact on the NATO/Warsaw Pact military balance are significant. The list below highlights different aspects of the contribution to Warsaw Pact military efforts of Western technology acquisition:

Warsaw Pact exploitation of Western technology has:

- Saved billions of dollars;
- Drastically reduced weapon systems development times;
- Greatly enhanced defense industrial base productivity; and
- Allowed quick response to Western weapons and tactics.

This pilot study evaluated a cross-section of transfers that could have occurred during 1983 and 1984 -- transfers licensed through the U.S. and the multilateral export control system. As a starting point to this summary chapter, it is important to note that most of the significant Soviet acquisition efforts attempted were stopped. The control system was successful. Without such a tight control system, however, the impact could have been significant.

The overall impact of the 1983 and 1984 key cases, by target clusters, is summarized in Figure 5-1. The cases show the strong correlation of Warsaw Pact industrial goals (as discussed in their current five year plans) with their attempts at Western technology acquisition. For example, Western automated production and control technology, an area of heavy emphasis in 1983 and 1984, is vital to Soviet/Pact priority efforts to improve and automate their manufacturing base -- particularly their machine tool and machine building sectors. Soviet/Pact acquisitions also leaned toward several important military mission areas. For example, the Soviets appear to be quite interested in Western signal processing technology. Soviet/Pact military facilities were directly involved in several acquisition efforts, with other cases having a strong linkage with Warsaw Pact weapon production.

The Soviet military priorities associated with their technology acquisition efforts underscore the potential for military exploitation of the 79 key cases. The case analyses illustrate how the Soviets could improve their military capability in key mission areas by acquiring technology from the West. But the specific cases do only that -- provide limited glimpses of the importance of Western technology to Soviet military mission areas. To fully explore the potential impact of technology transfer (and the multiple options it provides Soviet military planners), a more thorough examination of how Western technology affects Soviet military capability is required.

SOVIET/PACT TARGET GROUP	# OF KEY CASES	POTENTIAL IMPACT	MILITARY AREAS MOST AFFECTED
Automated Production and Control	20	Improve Soviet/Pact efficiencies, particularly in the machine tool and machine building sectors. Improve production efficiencies in steel and aluminum sectors.	Armored vehicle production (e.g., tanks), aircraft- and ship-building.
Telecommunications	16	Improve Pact-wide communications networks; improve machine-to-machine communications capabilities; improve R&D.	Warsaw Pact C3, cruise missile defense, Soviet/Pact electronic warfare R&D.
Microelectronics	14	Improve Pact-wide production to at least MSI level, possibly freeing Soviet fabrication lines for more advanced device work; improve test instrumentation throughout. May compensate for production problems experienced in 1983.	"On-board" electronics packages for aircraft, naval vessels, land vehicles, and virtually every major Soviet weapon system.
Computer Technology	8	Provide the base line for Soviet development of 16- and 32-bit supermini computers. Compact computer development throughout the Pact.	Affects nearly every major mission area, including C3, signal processing (ASW), navigation and guidance.
Sensor Technology	7	Improve Pact acoustic-wave device production and signal processing capabilities.	Anti-submarine warfare and electronic warfare.
Optoelectronics/Electro-Optics	4	Improve research and development of militarily-relevant optoelectronic.	C3 (fiber optics), laser research (directed energy), IR sensor systems.
Genetic Engineering/BM/CW	3	Improve military research and development.	Chemical warfare, biological warfare.
Power Generation and Propulsion	4	Improve jet engine performance/reliability.	Soviet/Pact air forces.
Transportation	2	Improve Soviet automated management systems.	Military transport/logistic support.

*One case in Guidance and Navigation not included.

Figure 5-1

SUMMARY CONCLUSIONS OF TARGET GROUP ANALYSIS*

Examining each of the key cases for 1983 and 1984 reveals several basic characteristics important to the Soviet military. They are:

- Selectively targeted manufacturing improvements.
- Direct assistance to military research and development efforts.
- Technology "pace-keeping," and
- Short term problem solving in military-related production.

Each of these characteristics and their effect on Soviet operational capabilities are summarized below.

5.1.1.1 Selectively Targeted Manufacturing Improvements

Most cases involving the Automated Production and Control, Microelectronics, and Power Generation/Propulsion Target Groups fall into this category. The Soviets appear to be emphasizing productivity improvements in key military support technologies, such as machine tool manufacture, machine building, and steel manufacturing. Two of the key cases involved end-users known to be directly engaged in armored vehicle production -- one in the Soviet Union and one in Czechoslovakia. Also, the Soviets are known to be helping the Bloc build an indigenous microelectronic capability with their Western technology acquisitions, focusing on test equipment. Two key cases had major potential impact on Warsaw Pact bearing production.

As discussed in Chapter 3, Soviet acquisition efforts in Western automated production and control technology appear consistent and coordinated with several Bloc-wide, national-level programs to improve their machine tool and machine building sectors. Successful Soviet assimilation of Western technology could have affected a number of important Soviet mission areas -- largely through increased military production efficiencies. For example, major cost and material efficiencies are obtained by automating the production of land-based armored vehicles (tanks, troop transports, etc.). The Warsaw Pact relies heavily upon its numerical superiority in such armored vehicles, particularly in Europe. Two of the key cases involved Warsaw Pact armored vehicle production plants.

Manufacturing improvements can also assist Soviet production of military aircraft. Quality improvements are possible in addition to production enhancements. The repeated 1983-84 Romanian attempts to acquire state-of-the-art Western bearing technology could have led to improved Warsaw Pact jet engine performance and mean-time-to-failure, thus overcoming a chronic problem facing Warsaw Pact aircraft. Additionally, advancing Soviet microelectronic capabilities could have improved the quality of on-board avionics systems.

5.1.1.2 Direct Military Research and Development Efforts

A number of key cases from 1983 and 1984 could have provided direct support to Soviet military research and development programs. These cases largely came from the sensor, optoelectronics, genetic engineering, and telecommunications target groups. The Soviets and Warsaw Pact attempted to acquire a number of critical military R&D tools or materials through legal channels. For example, Warsaw Pact countries made at least five separate attempts to

acquire embargoed Western state-of-the-art signal processing technology. These efforts focused upon advanced image processing, fast-Fourier-transform processing, and acousto-optic processing technologies, particularly that contained in medical diagnostic equipment. These state-of-the-art technologies have direct application to military signal processing R&D in aspects where the Soviets have important weaknesses.

The Pact also demonstrated interest in acquiring embargoed lithium niobate material from the West, both in ingot and wafer form. Lithium niobate is among the most common materials used for fabricating acoustic wave devices, particularly surface-acoustic-wave devices (SAWs), which meet modern military requirements for advanced signal processing. The 5,000 lithium niobate wafers requested by the East Germans could have directly assisted their military R&D programs. The Puretronic-grade lithium niobate, acquired by the Bulgarians because of an expired "de minimus" time limit, could also be used for research work in military fiber optics.

5.1.1.3 Technology "Pace-Keeping"

A major goal of Soviet technology acquisition efforts is to keep abreast of worldwide technological developments and update their use of proven technologies. To some extent, all of the 1983 to 1984 cases reflect this desire. But the effort to keep pace with Western developments appears most critical in computer and telecommunications technologies.

The key cases involving telecommunications technology indicate a sizeable attempt to improve Warsaw Pact telecommunications networks. All of these cases involved Eastern European countries, with Hungary accounting for over one-half. The type of technology being solicited, the lack of direct Soviet activity in this key target group, and the Hungarian emphasis in the key cases, suggest a Bloc-wide effort to upgrade East European military communications capabilities. Hungary is known to be stressing such development with Soviet encouragement. Full confidence assessments must wait for information providing independent corroboration, however.

5.1.1.4 Illegal Acquisition Efforts

Soviet and Pact intelligence services are confirmed to be continuing their illegal attempts to acquire technology relevant to Western weapon research and development efforts, with an unknown success rate for 1983 and 1984. 1983 brought expulsions of Soviets engaged in military espionage from several Western countries -- indicating an increasingly difficult environment for hostile intelligence service operation. Given the importance of classical weapons espionage, Soviet/Pact attempts are likely to continue at their current intensities. Acquiring U.S. weapon secrets can assist Soviet military designers in countering U.S. weapons, or developing systems with similar technology. Clearly, these efforts are an important component in the overall Soviet technology acquisition strategy.

5.1.1.5 Summary

In summary, Soviet efforts to acquire Western technology in 1983 and 1984 could have had a significant impact on their Automated Production and Control, Microelectronics, Telecommunications, and Computer capabilities. Figure 5-2 gives an overview of those technology areas which would have benefited most from successful Soviet acquisition efforts in 1983 and 1984.

	TARGETED TECHNOLOGIES	AUTOMATED PRODUCTION AND CONTROL	MICROELECTRONICS/ SEMICONDUCTOR	TELECOMMUNICATIONS	SENSOR TECHNOLOGY	COMPUTER TECHNOLOGY	OPTOELECTRONICS/ ELECTRO-OPTICS	POWER GENERATION	GENETIC ENGINEERING/ BW/ CW	TRANSPORTATION
TREND IN U.S. LEAD	➡	➡	➡	➡	➡	➡	➡	➡		
1983-84 TRANSFER ATTEMPTS COULD HAVE SIGNIFICANTLY AIDED SOVIET CAPABILITY	☆	☆	☆		☆					

KEY: ➡ U.S. LEAD DECREASING ☆ SIGNIFICANT CONTRIBUTION
 ➡ U.S. LEAD INCREASING

Figure 5-2

IMPACT ON TARGETED TECHNOLOGY AREAS

This table also shows U.S./USSR technology trends in these areas. Two key target groups show potentially significant 1983-1984 impact in areas where the U.S. technology lead is diminishing (computers and microelectronics). If they had been successful, Soviet acquisition efforts in 1983 and 1984 could have had important adverse impacts on the military balance in key mission areas (strategic warfare, tactical warfare, C³I, and defense-wide support). Figure 5-3 summarizes this potential impact.

MISSION AREAS	AUTOMATED PRODUCTION AND CONTROL	TELECOMMUNICATIONS	MICROELECTRONICS	COMPUTER TECHNOLOGY	SENSOR TECHNOLOGY	OPTOELECTRONICS/ELECTRO-OPTICS	GENETIC ENGINEERING	POWER GENERATION AND PROPULSION	TRANSPORTATION	1983/84 OVERALL
STRATEGIC WARFARE	H	H	L	M	H	L	L	L	L	M
NAVAL WARFARE	H	H	M	M	M	M	L	M	L	M
LAND WARFARE	H	H	M	M	M	M	L	M	L	M
AIR WARFARE	H	H	M	M	M	M	L	M	L	M
C ³ I	L	M	M	M	M	M	L	L	L	M
MILITARY SUPPORT/LOGISTICS	H	H	M	M	L	L	L	M	L	M

KEY: Potential contribution to Soviet operational capability in this mission area could have been:

H HIGH
 M MEDIUM
 L LOW

Figure 5-3

OVERVIEW OF POTENTIAL MILITARY IMPACT

5.1.2 Soviet Defense Budget Savings

Figure 5-4 plots the estimated total yearly minimum and maximum Soviet defense savings accrued during the period 1985-1997. The total values are determined by adding the ranges for each of the 14 target groups.

As shown, the Soviet military could have gained between \$6.6 and \$13.3 billion between 1985 and 1997 in cost savings by Western technology transfer in 1983/84. These savings come largely through direct military weapon production efficiencies which would have been gained by exploiting critical Western automated production and control products and technology. Not included in this calculation are significant military operational benefits which result from an improved weapons technology base. These "second order" effects are likely to be much more significant than the budget savings.

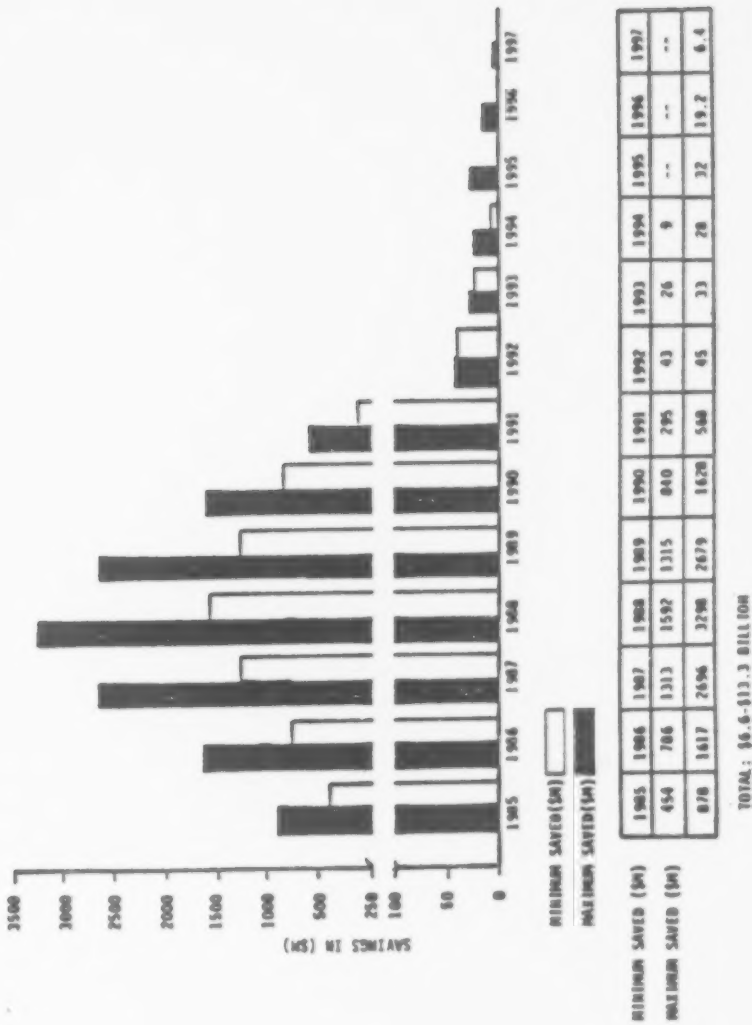


Figure 5-4

TOTAL POTENTIAL SOVIET MILITARY SAVINGS (1985-1997)

5.1.3 U.S./Western Defense Costs to Respond

Current U.S. Defense budget estimates are based on the assumption that U.S. technology security efforts are successful in preventing inappropriate transfers to the Soviet Bloc. If these controls were not effective, there would be additional costs to the Department of Defense. Figure 5-5 portrays some of these costs. The lag time between the Soviet savings and the time when Western defense budgets would be affected would likely be several years. These costs are very high, but only represent a snapshot in time. The cumulative costs of the Soviet long term acquisition program are much higher -- perhaps \$20-50 billion per year.

5.1.4 Principal Findings

In summary, key technology transfer cases in 1983 and 1984 could have provided a major increase in Soviet military potential in the 1990s and beyond. Exploitation of these cases:

- Could have saved the Soviet military \$6.6 to \$13.38
- Could have cost the U.S. and its allies \$7.3 to \$14.6B
- Could have degraded NATO/Warsaw Pact military balance
- Could have contributed to Soviet/Pact technological capabilities -- particularly in automated production and control, microelectronics, telecommunications, and computers
- Could significantly reduce military system development times
 - Three to five years for ASW sensors
 - Over five years for strategic and tactical C³
- Has contributed to the altering of major Western development efforts
 - Early move from ALCM-A to ALCM-B

5.2 FUTURE TRENDS

Despite their best efforts, the Soviets continue to lag behind the West in many key militarily critical technologies. But, in the last decade, they have closed the gap significantly in areas such as microelectronics and computers by using technology acquisitions from the West. And they are continuing their massive technology acquisition efforts to further improve their military capability. The West cannot depend upon its aggressive R&D efforts alone to maintain its military technology lead.

The Soviets may cut directly into overall U.S. technology lead time advantages simply by applying their best state-of-the-art technology into weapon systems before the West does the same. In fact, there is evidence that the West may be losing several years to the Soviets in applying new technology

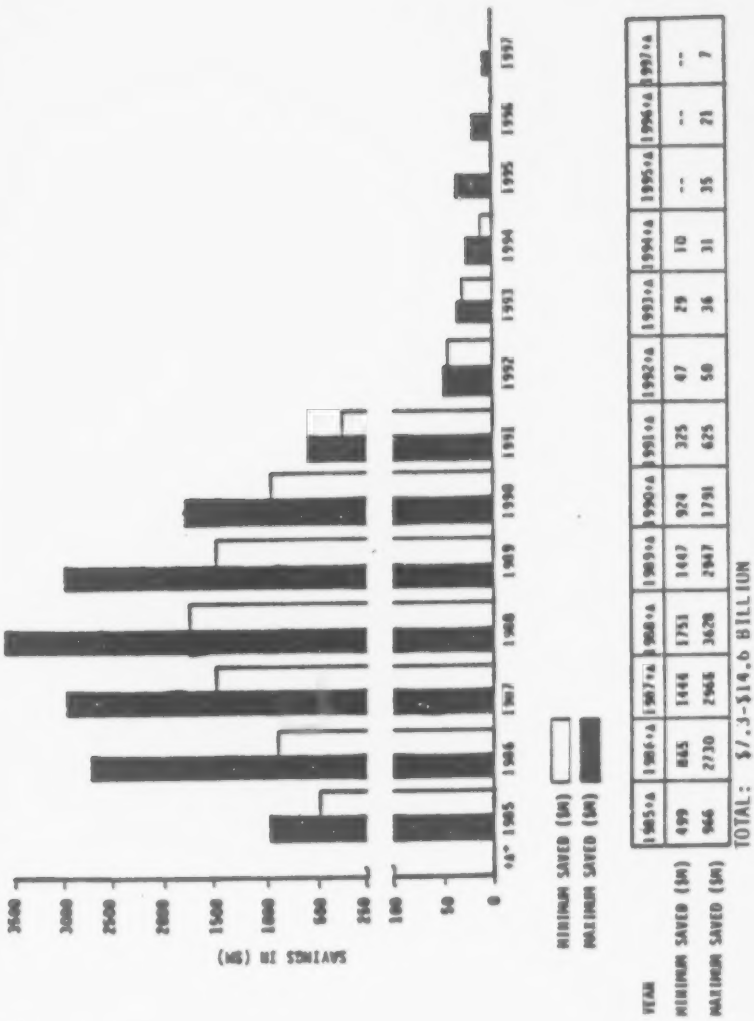


Figure 5-5

TOTAL POTENTIAL U.S. DEFENSE BUDGET COSTS (1985-1997)

to weapon systems. A critical question for the future is this: Can the West sufficiently slow Soviet technology advancement (through protecting against adverse technology transfer) to overcome the Soviet advantage of rapid military applications of technology?

The Soviets and their Warsaw Pact allies are likely to alter their technology transfer tactics, given the heightened level of technology transfer awareness in the West and tighter worldwide controls. The Soviets could react in one or more of the following ways:

- Increase Their Covert Collection Activity. As controls tighten and enforcement grows more effective, traditional Soviet acquisition channels will become less reliable and less efficient. This probably will place greater pressure on Soviet intelligence-related collection activities.
- Reinstate Currently Closed Acquisition Channels. The Soviets may desire to re-open currently dormant transfer mechanisms, such as international S&T bilaterals, to compensate partly for their other acquisition problems.
- Attempt to Disrupt Multilateral Agreements. The growing international nature of high technology makes multinational agreements vital for the protection of Western technology. The Soviets are likely to threaten the weakest links in the international technology community with trade cut-offs, or harsher actions, should such agreements be contemplated.
- Expand the Use of New Acquisition Channels. Although always part of the available Soviet acquisition capability, the Soviets may intensify the use of non-CoCom countries (in Asia, the Third World, etc.), West-to-West-to-East transfers, developing countries, and foreign-owned companies as conduits of controlled Western technology.
- Faster Indigenous Technology Development. The Soviets may try to speed the development of their own high technology base. This may include a more active role in industrial production for their scientific community (long a Soviet goal).
- Attempt to Discredit U.S. Control Policy. The Soviets can be expected to increase their propaganda efforts to prevent effective U.S. export control policy formulation.

Future technology security efforts can help stem the flow of Western high technology to the Soviet Union. As demonstrated by this study, success in these efforts is crucial in preserving the security of the West.

Chairman GIBBONS. Any other questions of this panel?

[No response.]

Chairman GIBBONS. I want to thank you very much, personally, for your interest in this and for your fine preparation.

Our next witness is a fine friend, Mr. Edward J. Derwinski, Under Secretary of State for Security Assistance, Science and Technology. He is a former Member of the House of Representatives and a good friend.

Mr. Derwinski, I am going to let you have as much time as you need to present your statement because you are the only witness we have here from the administration. However I am going to ask the timekeeper to please enforce the 5-minute rule on the Members right now.

We have so many witnesses, and I do not want to cut anybody off, but let's go right ahead.

STATEMENT OF HON. EDWARD J. DERWINSKI, UNDER SECRETARY OF STATE FOR SECURITY ASSISTANCE, SCIENCE AND TECHNOLOGY, U.S. DEPARTMENT OF STATE

Mr. DERWINSKI. Well, Mr. Chairman, I appreciate that you had a very lengthy but necessary session. I will try to be brief. I of course have a brilliant statement that was prepared by staff at the State Department.

I would just like to touch the highlights. May I ask that my statement in full be submitted for the record. And then, more in anticipation of the issues that have developed, I would just like to touch on one or two things.

One is that I think the timing of this hearing, while completely necessary, also points out the fact that there is still much to be studied and analyzed. We still do not know, as we meet here, the final legislative legal corrections that will be taken by the Governments and legislative bodies in Norway and Japan.

We have a COCOM meeting starting tomorrow. We will not know, until the end of this week, what practical results may come from that.

So, I think that upon review of those developments, I think the Committee will be in a much better position to make final judgment on legislation that may be before you.

I also call to the attention of the Members—I did not hear it discussed earlier—a letter to the editor, I guess it was, in this morning's Washington Post by the defense minister of Norway, in which he makes one or two interesting points, one of which though I would emphasize to you.

And that is that they promise, and they have promised us, that they will refine their laws, that they will present to their parliament in its next session—which I understand starts in September—a new export bill, and they will—and I quote from this letter. "Norway will seek to actively strengthen and harmonize licensing, and enforcement of the rules set by the Coordinating Committee of NATO countries and Japan."

I think if we keep in mind that Norway has been a valuable and legitimate ally dating back to World War II, I think, certainly, we

want to give them the opportunity to prove that they are responding to this crisis created by one of their own companies.

The other point, Mr. Chairman, I have—it is unclassified, which means there is not really much information for you—a chronological record dating back to 1980, of the diversions, and I listened with great interest to the—in fact I think you made the point yourself, sir, that often, the classified briefing is not too valuable because the information is available to you in the normal press.

I think that is true, and, to the degree that we could help obtain declassification of material that would be helpful, I think it far better that you work with material that has been declassified, rather than be in any way restricted by artificial classification.

And having sat in your position for years, I understand exactly the nature of your complaint. Let me just give one other report. The Japanese minister, Mr. Tamura, the minister of MITI, will be arriving in Washington tonight. He will be meeting with officials in our Executive Branch.

It is my hope that the Japanese Embassy will make him available to Members of Congress. I think he has to understand, first hand, the intensity of interest in the obvious—not just irritation—but anger that Members of Congress have at this development. And while we are not as yet satisfied with all the steps taken by Japan, nor their commitments to legislative improvement, we nevertheless feel that pressure we are bringing to bear on the Japanese Government which started with Mr. Weinberger's meeting with Mr. Nakasone sometime ago, will ultimately produce a strong response.

And I might add that we therefore welcome what you are doing. We welcome the interest of Congress. We welcome the legislation that has been introduced, even though we have specific objections to parts of the proposals, and we welcome that as an asset to us in achieving the maximum cooperation from the Governments of Japan and Norway, and then, more than that, the future cooperation of all the COCOM states.

With that, I would be pleased to answer any questions the Members might have.

Chairman GIBBONS. Thank you, Mr. Derwinski. Do you have a prepared statement that you want to put in the record?

Mr. DERWINSKI. Yes.

Chairman GIBBONS. All right.

Mr. DERWINSKI. We submitted the copies to your staff earlier.

Chairman GIBBONS. We will put that prepared statement in at this point.

[The statement of Mr. Derwinski follows:]

STATEMENT OF HON. EDWARD J. DERWINSKI, UNDER SECRETARY OF STATE FOR SECURITY ASSISTANCE, SCIENCE AND TECHNOLOGY, U.S. DEPARTMENT OF STATE

OPENING STATEMENT

Thank you, Mr. Chairman and distinguished Members of the Committee. I am pleased to have this opportunity to appear before you today to speak about the policy implications of the Toshiba/Kongsberg diversion case, as you consider bills which would ban imports and mandate other sanctions against the various companies involved in the diversions.

As you know, the impact of this case on Western security has not been precisely determined; it may never be. However, it is fair to say that the impact has been substantial and that considerable damage was done to Western security. That it was allegedly done with the knowledge and consent of the management of Toshiba Machine and Kongsberg Trading Company, subsidiaries of companies engaged in defense contracting and thus knowledgeable about export controls, comes as a shock to us all.

The depth of U.S. Government concern has been emphasized to the Governments of Norway and Japan at the highest levels. High-level diplomatic exchanges continue, and I would like to brief you on the current status of our discussions with both Japan and Norway.

JAPAN

The Government of Japan condemns this diversion and shares our concern that it has, in the words of Prime Minister Nakasone on June 29, "... grave adverse effects on the security of Japan and the entire free world."

Accordingly, the Japanese Government has taken unprecedented administrative measures against those firms involved and is pursuing its criminal investigation.

Specifically, Japan has:

Prohibited Toshiba Machine Company from conducting any commerce with the Soviet bloc for one year beginning May 22, 1987.

Prohibited C. Itoh, one of Japan's largest trading companies, from exporting any machine tools to the Soviet bloc for three months beginning May 22, 1987.

Arrested and charged two senior Toshiba Machine Company executives, and announced the indictment of four other Toshiba Machine officials and three Wako Kooki officials.

The government of Japan also shares our view that recurrences must be prevented and has already taken measures to strengthen its strategic export control system. It has, for example, formed an additional high-level strategic goods export council. Which since June 1 has reviewed all applications for key exports to the Soviet Bloc.

The Japanese Government is considering the introduction of new legislation increasing criminal penalties and extending the statute of limitations, and the strengthening of their export control licensing system through the use of systematic internal company export controls and monitoring.

It is noteworthy that, two weeks ago, Prime Minister Nakasone, following a meeting with Secretary of Defense Weinberger, instructed relevant ministries and agencies to take strenuous measures to strengthen Japan's export control regime and insure that applicable laws and regulations are fully observed by Japanese firms. The two top officials from the Ministry for International Trade and Industry are in Washington this week to discuss with us additional actions their government is taking. In addition, Prime Minister Nakasone immediately agreed with Secretary of Defense Weinberger's proposal for joint research in anti-submarine warfare to overcome technology losses from the diversion.

NORWAY

The Government of Norway likewise has condemned the activities of Kongsberg Trading Company and has expressed this view directly to the President. High-level Norwegian delegations have been in Washington almost continuously for the past two months on this subject, and the Norwegian Minister of Defense and the Deputy Trade Minister were in Washington several weeks ago to discuss the many problems caused by this diversion. We are informed that they have visited many Members of Congress and that the Members have been "open and frank" in expressing their views.

As you know, the Norwegians have:

Closed down Kongsberg Trading Company, including its Moscow office, and terminated all software and hardware support activities for equipment already delivered to the Soviet bloc. Kongsberg is undergoing reorganization and will become solely a defense equipment corporation, with no dealings, commercial or otherwise, with the Soviet Union or any Soviet bloc country;

Barred all individuals who worked on sales to the Eastern bloc, whether or not involved in this case, from any future employment by Kongsberg;

Formally charged the sales manager for Kongsberg Trading Company with providing false information to the Norwegian licensing authorities; and

Will review all Kongsberg export licenses issued since the late 1970's to determine, if possible, whether there have been other illegal transactions.

In addition, the Norwegian Government has informed us that it will propose a new comprehensive export control law which will:

Extend the statute of limitations for export control violations from two to ten years;

Increase criminal penalties and fines against firms and individuals; and

Apply export controls to transfer of services and technologies as well as products;

The Norwegian Government has further advised us that they will move immediately to:

Tighten the Norwegian licensing system to include random checks of internal company procedures;

Increase the number of licensing personnel by about fifty percent; and,

Alert Norwegian Customs to planned exports to permit "prepositioned" border checks.

Norwegian officials are continuing their Government's investigation into this matter and will keep us informed of their progress.

SANCTIONS AND COCOM

This Committee has before it two bills which would ban imports from the errant firm, its parent and affiliates, either for five years or indefinitely. One of the bills also prohibits the Defense Department from entering into any contracts with Toshiba, Kongsberg Vappenfabrikk and their subsidiaries and affiliates.

While we appreciate the unprecedented steps the Japanese Government has taken to date, we are looking forward to additional Japanese responses to the diversion. We believe the Norwegian Government is moving effectively to deal with the problems related to this diversion. We also agree that action by all members of COCOM is needed to deter future diversions.

Congressional interest in this particular diversion and the responses of the Japanese and Norwegian governments to it has been important in focusing attention on weaknesses in the Japanese and Norwegian export control mechanisms. Such Congressional attention also has been useful in highlighting the need for across-the-board improvements in COCOM.

However, we cannot support legislation which eliminates Presidential flexibility in the conduct of U.S. foreign policy. Although this diversion caused serious damage to U.S. security, there were no U.S. goods, technology, or persons involved, and thus no violation of U.S. law. The bills in question would impose sanctions on foreign companies under the jurisdiction of allied countries which cooperate with the United States in a multilateral approach to export controls (COCOM). Such unilateral action on the part of the United States could appear as an attempt to take over another COCOM member's responsibility to enforce its own export controls, undermining the COCOM concept. We are willing to work with the Congress to develop flexible authorities for the President to respond appropriately to such diversions.

It has been suggested that COCOM is a "toothless tiger". While I cannot agree with that characterization of an effort that has been underway for over 37 years, there is room for improvement. And we have been working with our allies to make such improvements. The Toshiba/Kongsberg affair has focused allied thinking and concern on our collective efforts to improve the control of strategic exports. By the end of this week we expect to achieve agreement on a set of specific actions that the member governments of COCOM can undertake to strengthen and improve both individual and collective administration of multilateral export controls.

CONCLUSION

In closing, I must emphasize the importance of COCOM in making our collective strategic embargo effective. The United States does not have the option of going its own way. Without the support and concurrence of all members of COCOM, the strategic embargo fails.

COCOM is an organization that operates only on the basis of the voluntary participation and concurrence of all of its members. We must be mindful of that important fact as we contemplate responses to this major diversion. We cannot accept the simplistic notion that the U.S. is serious about strategic export controls but all of our allies are not. Furthermore, we must be very careful about advancing the notion that when a diversion occurs in a COCOM-member country, the country should provide compensation to the United States for the damage.

Unquestionably, serious damage has been done to the security of western nations by the actions of the companies responsible for the diversion and we must address the consequences. We will continue to impress upon the Governments of Japan and

Norway the need to strengthen radically their export control systems and to impose stringent penalties on the parties responsible for the diversion.

We also need to move forward with the measures we anticipate COCOM will adopt this week for broad-based improvements in the multilateral control system. Let us not lose sight of the fact that there have been improvements in COCOM over the past seven years. Just as there have been improvements in individual members' control systems, the Administration recognizes the need to update the U.S. system for administering export controls. We are pleased that many of the provisions for relieving the export control burden on U.S. exports to friendly, Western countries originally contained in the Administration's bill are now part of the House Trade Bill, H.R. 3.

COCOM exists because we and our allies share strong common security interests. We will continue to focus the attention and efforts of all of our COCOM partners on the reality that a breach of security of one is a breach of the security of all.

Chairman GIBBONS. Let me ask you what is the Administration's view of the action taken to date by the Governments of Norway and Japan against the firms and individuals involved in this case?

Now I know you have covered part of that, but I just want to focus on this question. What is the Administration's view of actions taken to date by the Governments of Norway and Japan against the firms and individuals involved in this case?

Mr. DERWINSKI. We believe that the Government of Norway has been very forthcoming. Their defense minister was here and met with many of the Members of Congress, met with every key official that he felt it necessary to meet with.

We are convinced that we will have the maximum cooperation of the Government of Norway. Now there are specific steps they have taken which were referred to by members of the earlier panel, but certainly there is much to be done.

They have advised us that they have a continuing investigation. They will keep us informed of the progress, and they will introduce a legislative package to their parliament, and of course under the parliamentary system that prevails there, once the Government presents a legislative package they have the votes for approval.

There is no doubt that whatever they have proposed will be adopted. I must say, though—and I suppose carefully, since theoretically I am a diplomat—that we are a bit disappointed, to date, in the steps taken by the Japanese Government. While we appreciate that they have taken what, for them, is unprecedented steps, we frankly feel that we need additional Japanese responses to diversion to this specific case and to the future.

And in that context, I would say, frankly, that we feel that to date, the Norwegian Government has been more forthcoming overall, but again, the Japanese minister is in town, I think it is important that he understand the gravity of the situation. I should say, their ambassador has been extremely helpful to us, has conveyed to their Government our concerns, and I would think, though, that the minister coming in will get a dose of reality here, and I think it will be helpful.

But frankly, we are disappointed in their overall response to date.

Chairman GIBBONS. Does the Government of the United States have any evidence that the Government of Japan in any way participated in this incident?

Mr. DERWINSKI. Not that I am aware of.

Chairman GIBBONS. Do other COCOM countries take as seriously the issue of technology diversions as does the United States?

Mr. DERWINSKI. Probably not. I have attended one COCOM meeting in my position as Under Secretary. That was in late January, and we hammered out an agreement, referred to by Mr. Bonker, where we agreed to streamline the list in return for more effective enforcement. At that time we had set the stage, we think, for a much more practical era of cooperation with our COCOM allies.

Chairman GIBBONS. I visited the COCOM headquarters at one time a number of years ago, and I may be mistaken as to where they are physically located. I thought it was outside the back door of our embassy or something of that sort. I remember, it was not a very imposing structure that they were housed in.

I am not reflecting upon the people involved, but I was a little shocked, having visited different facilities around the world, that this was one that did not receive a very high mark as far as being impressive was concerned.

Mr. DERWINSKI. The High Level Meeting I attended took place in a rather ornate conference center, but your recollection about the COCOM offices is essentially correct. It is crammed into inadequate space in an Embassy annex, but the building is to be refurbished and expanded and present plans are for COCOM to be allotted more space. Nevertheless, at the risk of . . ." sounding impertinent, that I do not worry too much about government structures and the little perks that go along. I would much rather have bureaucracy here, and around the world, function more effectively, so—

Chairman GIBBONS. Well, I would, too, but I just know that somehow your importance gets graded by the size and the appearance of your building. I was just not overly impressed with what COCOM had been relegated to.

As I say, it has been quite some time since I visited their headquarters; I was treated very nicely; but I was concerned that it was a low priority on everybody's list.

Mr. DERWINSKI. Well, I had not seen the previous headquarters, but the one they are in now I would say is reasonably impressive.

Chairman GIBBONS. All right. Thank you very much. Mr. Schulze.

Mr. SCHULZE. Thank you, Mr. Chairman. I would like to welcome you, Mr. Secretary, before this committee. We follow your exploits with admiration and respect. We know what a great job you are doing down there.

Mr. DERWINSKI. Oh, oh, that means tough questions are coming. [Laughter.]

Mr. SCHULZE. No. Mr. Derwinski, you heard the question I put to the previous individuals before the committee.

I wonder whether you have any knowledge whether our Government is requesting that Japan take action, or whether we, unilaterally, are weighing steps against the Itoh Trading Co. or the Wako Trading Co.? Or whether there are any other Japanese companies who were either involved with this, or any other activity that we are looking into?

Mr. DERWINSKI. Okay. We have asked the Government of Japan, in view of the enormous damage done by the Toshiba diversions,

we have asked them the things you would expect. To assume a more practical leading role in COCOM, starting with the meeting that is commencing tomorrow.

We have asked them for an in-depth investigation of this diversion case, and others. We have asked them to conduct the fullest possible criminal investigation and prosecution, consistent with their present laws.

We have asked them to review all export licenses pending to the Soviet bloc. We have asked them to take necessary steps to either effectively administer their current laws or improve their laws, so that diversions would not take place, and also—

Mr. SCHULZE. Have they been forthcoming and responsive to those requests?

Mr. DERWINSKI. They have been partially forthcoming. I expect we will have some very positive developments as a result of Minister Tamura's—

Mr. SCHULZE. Mr. Secretary, it seems to me, the fact that you had to ask is almost a condemnation. You would think that they would want to follow through on these on their own initiative.

Mr. DERWINSKI. Quite frankly, their initiative seems to be in direct reaction to the pressure we have been applying.

Mr. SCHULZE. You heard the previous witnesses state that they were convinced, and that there has been evidence uncovered, that MITI, the Japanese Ministry of International Trade and Industry, was involved with these illegal sales.

Do you have any knowledge, or any inferences that this is true, or would you care to comment on that?

Mr. DERWINSKI. I have no personal knowledge, and I believe, though, it would be very practical for the committee, in light of the allegations, to utilize the various entities of our Government for whatever briefings might be pertinent. But I personally, at this time, have no knowledge of that.

Mr. SCHULZE. You are not prepared, at this time either, to assure us that MITI was not involved?

Mr. DERWINSKI. No, but I am not in any way prepared to tell you they were, either. I just honestly do not know.

Mr. SCHULZE. Is this an area which might be classified, that you would rather I not get into, or is it just something you have not been involved in?

Mr. DERWINSKI. Well, I am sure if we do have information, perhaps some of it was obtained through the intelligence sources, and those are always to be protected.

Mr. SCHULZE. Mr. Secretary, from your study of this situation, do you think it could possibly have been a casual mistake, an error, where someone unknowingly sold this to a trading company, and that they had no knowledge that it was going to end up where it did?

Mr. DERWINSKI. No. I do not think in any way that this could be treated as casual. I think maybe the best term is just "plain old-fashioned greed."

Mr. SCHULZE. I thank you. Thank you, Mr. Chairman.

Chairman GIBBONS. Mr. Frenzel.

Mr. FRENZEL. Mr. Secretary, we appreciate your presence here. Some of us knew you when you were a lowly ambassador, and it is great to see you jumping up those rungs with such celerity.

With respect to the law that Norway is going to introduce, does the State Department have a draft of that law?

Mr. DERWINSKI. No. We were told, because their parliament will not meet in session until September, and they do not have an active committee system, such as we have in our Congress, that the law is being drafted by the different ministries of Government, will then be presented as a formal Government legislative package when their parliament reconvenes.

Mr. FRENZEL. Now the people that I talk to, representing the Norwegian Government, indicated that they were embarrassed by the fact that their law dated to 1946, and was obviously inadequate to do the job that they wanted it to.

It is your impression, however, that they are serious, and that the law that they will introduce is a good one?

Mr. DERWINSKI. Yes. I have no doubt about it. You know, I do not have to tell you, coming from Minnesota as you do, that there is a streak of, let's say, total honesty in public undertakings that is common to the Nordic peoples, and if the Norwegian Government tells us that they intend to make the fullest possible correction and see that nothing like this occurs again, quite frankly, I have a considerable amount of confidence in them.

Mr. FRENZEL. Thank you. The Japanese, however, have been less swift to announce any specific changes, and in fact have been reluctant to make changes in their law. I agree that it is nice that Tamura-San is here this week and we hope that he will bring us some evidence of greater enthusiasm on the part of the Japanese Government.

I have been extremely critical of that Government for their unwillingness to move swiftly with a new law. Is that a problem you have, too?

Mr. DERWINSKI. Our hope is that having started slowly, they will pick up speed and will, in both a very practical way, as well as rapidly, reach the point we think they should. I think—and this is just a purely personal opinion—I think that they underestimated the intensity of public reaction in the United States.

And maybe they just do not understand us, as we often do not understand them. But I do not think they really understood the gravity of this situation, and the terrible blow that this has been to the image of Japan in the United States.

Mr. FRENZEL. As we understand it, there has been one indictment in Norway, and perhaps one in Japan.

Mr. DERWINSKI. That I would have to verify, but I will be pleased to supply you with the answer.

[The information from Mr. Derwinski follows:]

As of July 15, 1987, there have been four indictments in the Toshiba/Kongsberg diversion case, as follows:

On June 15 the Tokyo District Public Prosecutor's Office indicted Toshiba Machine Company and the following two company executives on charges of violating Article 70 of the Foreign Exchange and Foreign Trade Law:

Ryuzo Hayashi, Office Chief in the Machine Tools Business Section; and Hiroaki Tanimura, Section Chief in the Machine Tools Export Department.

The maximum penalty under Article 70 is three years imprisonment, and a fine of one million yen or three times the value of the illegal export (whichever is higher).

On April 28 Mr. Bernhard Green, the former sales manager of Kongsberg Trading Company, was indicted in accordance with Norwegian Penal Code Article 166, which makes it a punishable offense to give false information to investigative authorities.

Penalties under Article 166 can include fines or imprisonment for up to two years.

Mr. FRENZEL. Okay. We would like to know, because if true, it would seem to indicate a lack of serious prosecution. Obviously, it really did no good to have the chairman and president of Toshiba resign. They apparently had no relationship with the case, and were doing what they thought was, I guess, the traditional Japanese way to accept responsibility, but that does not help the situation any.

Let me ask further. We are meeting at COCOM now, or soon. Are we going to scrutinize the laws of all the COCOM partners, to see that those who carry statute books, like Norway and Japan, might upgrade their laws as well?

Mr. DERWINSKI. The immediate impact on all the COCOM partners is that, I believe that they will not wish to find themselves in the position that the Japanese and Norwegians do at this point. Therefore, I think it will behoove them to instinctively, and hopefully effectively, tighten up all their procedures, and if they find that their laws are not adequate we would hope that they would anticipate the need to be fully cooperative with their interests and our interests—those are mutual interests—and effectively develop a new body of laws, if necessary.

By the way, in answer to your earlier question, Mr. Frenzel, I have a report here on the—these are the key Japanese Government reactions updated to yesterday. I would be pleased to submit them for the record, but in addition to this, I am expecting Minister Tamura to be more forthcoming, and overall, we really expect the Japanese Government to be more forthcoming.

Mr. FRENZEL. I do, too. I do not think that its reaction has been anywhere near commensurate with the gravity of what has happened.

May I ask you about the policy of our Government. You are speaking, I presume, for the administration, not just for the State Department. That would be Defense and Commerce, and other interested departments.

Is it your opinion that you have satisfactory or adequate authority under the law to try to resolve this problem, or are you seeking additional legislative authority such as that provided by Mr. Hunter, Mr. Wilson, and others?

Mr. DERWINSKI. We of course, as you know, are supporting the amendment to H.R. 3 that Mr. Bonker's committee worked on. We do not, for reasons of basic policy, support any of the amendments and bills that have been proposed directly affecting the pending diversion cases, but primarily because of the, I think proper attitude that the executive branch must take over restrictions on our administrative flexibility.

We welcome the intense congressional interest, but we think that a much more pragmatic final legislative cure could be forthcoming. The proposals before us are not supported at this time.

Mr. FRENZEL. The last question is, does a tough, mandatory response from the United States make it more difficult for us to achieve a strengthening of COCOM within itself, through the cooperative efforts of its members?

Mr. DERWINSKI. Any mandatory provision tends to take away the flexibility and practicality you need when you are negotiating with another country, because what it does is obviously restrict you in negotiations. At the same time, though, the mere presence of congressional interest, and the mere presence of very, very strict proposals strengthens our negotiating hand.

Mr. FRENZEL. Thank you very much.

Chairman GIBBONS. Mr. Crane.

Mr. CRANE. Thank you, Mr. Chairman, and I welcome the visit by the distinguished Under Secretary of State.

There has been a recent proposal by a group here in the United States, Mr. Chairman, that we move in the direction of a parliamentary democracy, and one of the ingredients of their proposition includes having sitting Members of Congress also hold Cabinet positions simultaneously.

While I look with disfavor upon that proposal, I think that we do have a semblance of it in the presence before the committee today of our distinguished Under Secretary given that he is a former distinguished Member of this body.

Mr. DERWINSKI. Mr. Chairman, I am not quite sure, exactly, what Mr. Crane said, but I do say to you, sir, that I compliment you on the good influence you have had on him. I remember him as an arch-isolationist, and I am pleased to see that he now has this—

Mr. CRANE. Cosmopolitan internationalist.

Mr. DERWINSKI [continuing.] Wonderful, total world vision that is so becoming.

Mr. CRANE. Well, Mr. Chairman, that has been a combination of your good influences, but also, standing in utter awe of the presence of his excellency, the Under Secretary of State. [Laughter.]

Let me direct a question to you in terms of Japan's actions. The fact of the matter is that they are the paramount target of KGB espionage, and further that they have little incentive, with no defense establishment to speak of, to attempt to enforce security against espionage.

I wonder (a) what specific recommendations or proposals we have made to the Japanese Government in order to deal with this potential problem, and (b) what has their response been to that?

Mr. DERWINSKI. I do not know, Mr. Crane. I would suggest, though, that proper consultation by this committee with our intelligence entities in the Defense Department would give you a much clearer picture than I might of the problems the Japanese have faced, and how they have coped with them.

One thing I hope we do not do in this process is to under-estimate the Japanese Government, their officials, and people, as good allies. They are very, very good allies, and they have a defense relationship with us which is excellent.

They labor under a constitutionally imposed limitation on defense expenditures which, you know, we imposed after World War II, and one of the fascinating things is, I am not aware that any

government in Asia wants the Japanese to scrap that provision of their constitution and suddenly re-arm.

So history has a role to play here, but I think we must keep in mind, despite the terrible nature of this Toshiba diversion case, that the Japanese are a major, and therefore trustworthy ally, a responsible ally.

Mr. CRANE. I agree with you wholeheartedly there, but the disturbing revelation is, if correct, that there were MITI officials that were involved in this, and ready access of KGB officials tempting corporate executives, and tempting government officials. It strikes me that there ought to be a sensitivity that may have been lacking heretofore in Japan, as to the potential for that sort of thing, given the fact they are such a target.

Mr. DERWINSKI. I would say, Mr. Crane, that obviously there are entities in our Government who should, and would be pleased to provide you with all the information they have. I am aware of the allegations, but frankly, I have not focused on them at all.

Mr. CRANE. Mr. Perle will be testifying after you regarding COCOM, and he mentions in his testimony that we have pleaded with them to treat the licensing of exports to the Eastern bloc with the seriousness it deserves. We have implored them to staff their export-control ministries with sufficient trained personnel to do the job.

We have urged that they augment their customs service personnel, and train them so that they can distinguish between exports that are permitted versus those that are not.

We have urged the creation of a group of experts in military technology. Mr. Perle's concluding paragraph after that is,

We have done this with only meager and unsatisfactory results, and almost without exception, our allies have resisted our efforts, significantly to strengthen COCOM, sidetracking our initiatives, watering them down, delaying, slowing, diminishing, and deflecting us with every dilatory tactic and bureaucratic maneuver one can imagine.

Given that, what is the agenda this week in Paris for COCOM? Does it include a consideration of our concerns over what happened with Toshiba and Kongsberg?

Mr. DERWINSKI. I believe, of necessity, that will be the dominating issue. In fact our COCOM representatives will have bilateral sessions with the Norwegian and Japanese delegations.

They will meet with all the permanent COCOM representatives to hammer away the issue that is now before us, and quite frankly, Mr. Crane, I do not want to misuse the term. You know, every cloud has a silver lining, and it could well be that this terrible diversion case will be the catalyst by which COCOM could be truly effective.

There is no doubt about it, that COCOM has not lived up to our expectations. There is no doubt that COCOM has fallen far short of its goals, and that we have very often been disappointed.

But COCOM has also been the "only ball game in town" in which we could effectively play, and therefore it behooves us to use this issue to strengthen the COCOM structure, and we intend to use this to really bring about long overdue reforms and improvements in COCOM.

Mr. CRANE. Mr. Chairman, I simply want to congratulate our distinguished former colleague for his testimony, and I hope that we will have other opportunities to bring him before the committee in the future. Thank you, Mr. Secretary.

Chairman GIBBONS. Mr. Pease.

Mr. PEASE. Thank you, Mr. Chairman. I would also like to welcome back our distinguished former colleague, and commend him for his excellent efforts in South Korea on his recent trip there. Very fine results.

Mr. Under Secretary, I am looking at articles of the GATT. Under Article 21, it says,

Nothing in this agreement shall be construed to prevent any contracting party from taking any action which it considers necessary for the protection of its essential security interests relating to the traffic in arms, or in other goods and materials, as is carried on directly, or indirectly, for the purpose of supplying a military establishment.

It seems to me, that that spells out extremely clearly, what our authorities are under the GATT. My question is, you have suggested that the administration is pushing Japan and pushing Norway, and is consulting with both nations, and is awaiting reports, and so on.

Does the administration contemplate taking any direct action at all, of its own, in relation to Toshiba?

Mr. DERWINSKI. I think any decision, which of course would be made at the highest levels of Government, when such a decision would be made, would have to wait to see what we have been able to produce in direct relationship to the pressure that we brought to bear.

But I should correct that. We really are not doing much in the line of pressure. It is American public opinion, and for that matter, I am sure even world public opinion, the indignation at the revelations, that is really bringing the pressure to bear.

And what we have been trying to do is convince, especially the Japanese authorities, that they have a monstrous problem. We think that they certainly have a moral problem here. I think more than that, though, they have—one thing they understand—a public relations and economic problem, and they must react, or the real weight of the Toshiba case will fall upon them, adversely, and quite frankly, I think it is just their inherent common sense we are appealing to.

Mr. PEASE. Mr. Under Secretary, we are not here to criticize the Japanese. As you point out they have been our allies, they are an ally, they are a useful ally, and, certainly, I do not wish to get into the popular sport of Japanese bashing.

But you have just repeated a point that you made in your testimony, and that is that the Japanese underestimated the intensity of feelings among Americans, and that the Japanese have a public relations problem.

What bothers me about the Japanese in this case, and many, many others that we get involved with on the Trade Subcommittee, is that they respond to the pressure of public relations problems. I would like to think that for once the Japanese would do what is right—what is in their national interest and our national interest—because it is right, and not because they have a public rela-

tions problem and the American public is up in arms over what they are doing.

In this case, strengthening their export controls for sensitive technology is a matter of their defense, our defense, the defense of the free world, and yet, as you suggested twice in your statement today, they are doing it, if they do anything, only because they seek to avoid the negative consequences of an American public which is terribly angry with what they have done.

To me, that is an extremely frustrating aspect of the Japanese personality.

Mr. DERWINSKI. I assume that they are closely monitoring this session. I hope that they will be duly understanding of the, what I would call the very businesslike but nevertheless concerned attitude of committee members.

I think part of the problem is that their embassy here has tried to convey to their Government the true intensity of the problem as you have described it. I am not sure that, up to now, that the full impact of that has hit. I hope this hearing will be very, very helpful in that regard.

Mr. PEASE. Well, to return to my point earlier, is it your impression that if there were no public outcry, if there were no hearing today, that the Japanese would go along without changing their laws at all, without contemplating changing their laws, and that they would continue to allow, without significant penalty, Japanese companies to export sensitive technology to the Soviet Union?

Mr. DERWINSKI. I do not know. I do not separate the two thoughts. One is that I think they believe that the resignation of a number of officials, which is traditional in many Oriental countries—that is referred to as the loss of face, and therefore, in this case retirement—that this meets certain needs.

I do not think that the Japanese Government in any way wants to, or would have closed their eyes, or have closed their eyes, to any activity by any of their citizens as far as Soviet espionage is concerned.

That is why I made the point earlier, they are good allies.

Mr. PEASE. Well, if I can just interrupt for a minute. We have had testimony that the Japanese Government knew for 2 years what was going on with Toshiba, and did not choose to do anything until it became public.

Mr. DERWINSKI. That is the kind of material I think we should go over with in executive session. That is not quite the way I read the classified material.

Mr. PEASE. Well, in any event, again, I appreciate your testimony and I thank the Chairman.

Chairman GIBBONS. Mr. Secretary, we are going to have to ask you to wait here a moment while we go and vote. Mr. Guarini will be on his way back and as soon as he comes, he will take over and finish the examination.

Mr. DERWINSKI. Fine.

Chairman GIBBONS. Let me ask you, do you know, or do you have any records in the State Department, whether we have any precedent for this type of legislation? I am not aware of it. In the 25 years I have been here on the committee, we have never taken up anything like this before.

I just wondered if it had ever come up before.

Mr. DERWINSKI. I personally am not aware of it. What I would rather do is to have some research done by our legal department, so we could be absolutely accurate.

Chairman GIBBONS. I think it would help if we did have a little research because we are off in relatively uncharted waters, as far as this Member is concerned, and I want to make sure that we get all the information that is available.

[The information from Mr. Derwinski follows:]

The following is an analysis of possible precedential legislation prepared by Judge Sofaer, Legal Adviser of the Department of State:



United States Department of State

Washington, D.C. 20520

July 22, 1987

TO: T - Edward J. Derwinski
 FROM: L - Abraham D. Sofaer *AS*
 SUBJECT: Precedent for Export Control Sanctions Legislation

In your memorandum to me dated July 15, 1987 you requested, in response to an inquiry from Chairman Gibbons of the House Ways and Means Trade Subcommittee, any examples of statutes in effect comparable to two House bills now pending. Those two bills would impose sanctions (including an import ban and a prohibition on government contracting) on two named foreign companies.

I would note as a preliminary matter that the two bills in question contain a number of distinctive features:

- a) They impose sanctions on two named companies
- b) The companies involved are not U.S. corporations and the acts giving rise to the sanctions did not involve violations of U.S. law
- c) The acts giving rise to the sanctions occurred prior to introduction of the two bills.

We are not aware of any legislation currently in effect in either the area of export controls or any other area that contains the above three factors.

Your memorandum points out the statute that most closely would serve as precedent for the two bills, Section 233 of the Trade Expansion Act of 1962. Section 233 (which was added by Section 121 of the Export Administration Amendments Act of 1985) grants the President discretionary authority to bar imports from any person who has violated any regulation "issued under a multilateral agreement, formal or informal, to control exports for national security purposes..."

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That section would clearly grant the President authority to bar imports from violators of regulations issued pursuant to COCOM guidelines. However, it differs from the proposed bills in a very important respect: it does not single out two companies by name for having violated such regulations nor does it mandate specific sanctions be imposed against violators. In addition, the current law requires certain conditions be met (including obtaining other COCOM members' concurrence in the actions) and does not cover government procurement.

We are aware of no other comparable statute in the area of national security export controls. Other statutes grant discretionary or mandatory authority to act against imports from certain countries but differ in significant respects from the legislation currently being contemplated. For example, certain economic sanctions are triggered by acts of a country in support of international terrorism. However, once again, those sanctions do not involve mandatory application to a specified named company or group of companies.

Last year, bills were introduced to bar DOD from contracting with firms in which a "hostile foreign government" owned a significant interest. The bills grew out of a contract between DOD and the Italian company FIAT which at that time was partially owned by Libya. Though the bills were inspired by this particular situation, they did not purport to apply only to one or several named companies as do the two pending bills before the House. FIAT negotiated an end to Libya's interest in it, and the bills were dropped.

Chairman GIBBONS. I will be back in just a minute. In the meantime we will be in temporary recess. We will then go to Mr. Perle and then on to the witnesses from other concerned interests here.

[Vote recess.]

Chairman GIBBONS. The meeting will resume.

Let me ask, are there further questions of the Secretary?

[No response.]

Chairman GIBBONS. If not, Mr. Derwinski, you are excused, and we thank you very much for coming. The next witness is Mr. Perle.

Mr. Perle, we welcome you. We know you represent the American Enterprise Institute, and we realize that you have had a very distinguished career in Government. I turn the floor over to you and tell you you have as much time as you need.

**STATEMENT OF RICHARD N. PERLE, RESIDENT SCHOLAR,
FOREIGN POLICY PROGRAM, AMERICAN ENTERPRISE INSTITUTE**

Mr. PERLE. Well, thank you very much, Mr. Chairman.

I particularly appreciate the opportunity to appear before the subcommittee to testify in the aftermath of the Kongsberg/Toshiba case, on the issue of protecting against the diversion of Western technology and preventing its use in Soviet military programs.

In the early days of the Reagan administration, we learned, through unusually sensitive intelligence, that the Soviet Union had in place a massive program to acquire, and use for military purposes, the advanced technology that the free world had always regarded as supplying an essential margin of advantage vital to its security.

Knowing that the West, in the main, had chosen butter over guns, and that the East had chosen guns over butter, we had long since come to accept that the Soviet Union and its allies would build more tanks and airplanes, and ships, more missiles and artillery tubes and helicopters, than the Western democracies. We knew that the Warsaw Pact would continue to field vastly more divisions; but we took comfort in the belief that superior Western technology would even up the numerical imbalance enjoyed by our adversaries.

That belief, Mr. Chairman, was misplaced, and our comfort ill-founded. For we came to understand, again through sensitive intelligence, that more than 5000 Soviet military programs each year utilized Western technology drawn from the United States, Japan and our allies in Western Europe.

Now much of the technology, equipment, and know-how that poured into the Soviet military-industrial complex was obtained illegally, in violation of an embargo agreed to by the United States and its allies, and organized by COCOM, which is an informal, voluntary organization based in Paris. And your recollection of its facilities is quite correct. They have not moved. They have put a coat of paint on the building that you visited.

Alongside the information we obtained about the extent and effectiveness of Soviet use of Western technology, COCOM seemed desperately in need of strengthening. It was hopelessly understaffed. I would estimate that for each employee of COCOM—most of them clerical—the Soviets had a thousand or more professional

in Moscow and abroad, engaged full-time in defeating the Western embargo. The COCOM budget was under \$500,000 a year. It met in an annex of the American Embassy in Paris. It duplicated its reports on what must have been one of the last hand-cranked mimeograph machines in Western Europe. It had no computer, no simultaneous translation facilities, no professional staff—even the Secretary General, an Italian diplomat, was on temporary duty—no research or intelligence capability and no military advisors. Delegates to COCOM were almost certain to be diplomats of modest rank specializing in commercial affairs, men and women whose careers centered on promoting, not interdicting exports. Many of them would serve in Paris between tours in Warsaw Pact countries where they would be responsible for expanding trade between their country and the country of assignment.

When, in 1982, the United States requested a high-level meeting of COCOM, it was the first in 25 years. Abysmal neglect had permitted COCOM to atrophy even as Soviet operations aimed at defeating it were increasing exponentially.

For more than 6 years, Mr. Chairman, we tried to get our COCOM allies to strengthen COCOM, and to improve their own institutions responsible for restricting the flow of militarily sensitive technology to the Soviet Union. We have pleaded with them to treat the licensing of exports to the Eastern Bloc with the seriousness it deserves. We have implored them to staff their export-control ministries with sufficient trained personnel to do the job. We have urged that they augment their customs service personnel, as we have done, and train them so that they can distinguish between exports that are permitted under the COCOM regulations, and those that are not. In the Toshiba case, the Japanese customs officials were shown one piece of equipment and another piece of equipment was actually sent. With training and organization one can defeat these types of maneuvers. We have urged the creation within COCOM, or in association with COCOM, of a group of experts in military technology, drawn from ministries of defense, to broaden the understanding of the member countries of the complex technical and intelligence issues that surround the administration of an international embargo.

Mr. Chairman, we have done all this with only meager and most unsatisfactory results. Almost without exception, our allies have resisted our efforts significantly to strengthen COCOM, sidetracking our initiatives, and watering them down, delaying, slowing, diminishing, and deflecting us with every dilatory tactic and bureaucratic maneuver that one can imagine.

I vividly recall a conversation with a high-level Japanese official, sent by his government to Paris for a meeting at which strengthening COCOM was on the agenda. We were hoping to increase the COCOM budget, so that a handful of professionals might be hired to track the thousands of cases that come before COCOM each year. This would have meant an additional \$45,000 per year for Japan. With the most breathtaking disingenuousness, the senior official of the Japanese trade ministry told me that the Japanese budget was very tight and the money could not possibly be found. Without consensus, there could be no agreement to the budget increase we were seeking, and thus was yet another American initia-

tive diminished and delayed. We did, ultimately, some years later, get a small increase, an inadequate increase, in the COCOM budget.

Now like the Japanese, the Germans have fought us every inch of the way. Always eager to expand the list of technologies that can be sold freely to the Soviet Union, they are nowhere to be found when help is needed to strengthen the administration of the existing controls. Other COCOM members—the Dutch, the Canadians, the Belgians and Italians, the Norwegians, the British, the Danes—they have, to varying degrees, resisted our efforts to obtain a level playing field in which all COCOM member countries exercise comparable diligence in implementing the agreed controls. And virtually all of them have sought to decontrol as much technology as possible, particularly when their industry is directly affected. It is not uncommon at COCOM, Mr. Chairman, at meetings in Paris, to find around the table corporate officials of European countries whose product line is being discussed or negotiated. They sit behind their national delegations, and sometimes even at the negotiating table. The last thing on their agenda, or in their minds is the security of the Western Alliance. They are there to open market opportunities for their companies, and if the United States has to increase its defense budget to counter Western technologies in Soviet military systems—well, that is not their concern.

Thus our effort to improve the international collaboration that COCOM was established to facilitate has been marked by bitter disappointment, relieved only rarely by glacial movement on some minor detail or other.

I hope the subcommittee will find the time to take testimony in closed session, where all of the executive departments involved in export controls can be represented, where classified material can be discussed, and where the candor you need to understand just how serious the situation is can be brought to bear.

This, Mr. Chairman, is the essential background against which to reflect on the disastrous transfer to the Soviet Union, by companies in Norway and Japan, of the equipment and know-how needed to reduce radically the detectability of Soviet submarines. In the atmosphere of governmental indifference that has existed among our COCOM partners, disasters like the Kongsberg/Toshiba case are bound to happen.

Administration witnesses may come before you to talk about the progress we have made. They are wrong. They have become so accustomed to the absence of any progress that they are all too ready to regard the most trivial, and generally ephemeral hints of tractability, as a significant step forward. It all rather reminds me of a hospital room full of anxious relatives surrounding Uncle Charlie who is recovering from a stroke. When, after weeks in a coma, Uncle Charlie wiggles his little finger, a great cheer goes up.

It is, in my judgment, a scandal that the United States should have for so long accepted a situation in which our COCOM partners have, through indifference and careless disregard, failed to mount an effort remotely commensurate with the crucial task of diminishing the flow of sensitive technology to those who are arming against us.

It is undoubtedly frustrating with our allies' approach to export controls that has led some Americans to argue that we should weaken or abandon our won controls, sinking to the level of our least vigilant allies, rather than working to raise them up to ours. According to this view, we should join the Toshiba and the Kongsbergs. We should switch rather than fight. I believe that this is profoundly mistaken.

Mr. Chairman, the House has passed amendments to H.R. 3 that would open the way to dozens of Toshiba. It took this action before the Toshiba/Kongsberg case was understood, before people recognized how much damage could be done in a single transaction.

The House-passed amendments would effectively decontrol all U.S. exports to COCOM member countries, despite the fact that, as we have seen in the case of Norway and Japan, some of those countries are hopelessly ill-equipped to protect their own, much less our technology. Ship American technology with reckless abandon to any COCOM country, as the House bill would authorize, and there will be countless cases like Kongsberg/Toshiba. And we will not even know because there will be no record of the transactions—what sensitive American technologies are being exported, who is receiving what, and where our exports ultimately wind up. That is one reason why I have elsewhere referred to Congressman Bonker's amendments as the "Soviet Technology Relief Act of 1987", and he and I have had numerous opportunities to discuss this issue.

The House amendments to H.R. 3 would do still more damage, decontrolling 40 percent of the exports we now control for national security purposes, regardless of the impact of such action on our national security. This arbitrary decontrol will facilitate Soviet plans to upgrade their weapons and weapons manufacturing with Western technology, giving them legally what they have been stealing. How can we hope to preserve any credibility with our allies, if we turn on a dime, and now, after years of opposing arbitrary percentage decontrol, do precisely that?

And finally, Mr. Chairman, the House bill would repeal a Scoop Jackson amendment to the Export Administration Act, and exclude the Department of Defense from any role in export licensing to COCOM countries. It is idle nonsense to believe that one can make decisions on the control of exports for national security purposes without the benefit of the advice, the perspective, and the expertise of the Department of Defense.

I urge the subcommittee to find a way to take a second look at what the House has done, and what the Senate, in large measure, is about to do, and make use of that most rare opportunity in political life, and even that causes one to rethink one's position before a mistake is made and sent to the President for his signature.

If the Congress now pulls back from the House amendments to H.R. 3, and if the Senate, which has not yet enacted the measures proposed by the Banking Committee that would have a similar effect, can be persuaded to reconsider them, we will have cleared the way for measures to deal with Kongsberg and Toshiba. To act against these two companies, egregious though their greed may have been, while gravely weakening America's own controls at the same time, and even in the same bill, would be to mistake hypocri-

sy for high purpose. What is the point of bashing a Japanese firm while dropping from our regulations the requirement that sensitive exports to Japan should be subject to review, and licensing, for national security purposes?

As for Toshiba and Kongsberg, sanctions are clearly in order. Blocking their imports into the United States would be a good place to start. I urge the subcommittee to take action to accomplish this. Such a step would send a much-needed message to other companies, so that the next time they are tempted to sacrifice our security by violating the COCOM rules, they will know that they are putting their access to the American market at risk. Had legislation barring imports from any company that violates the COCOM rules been in effect at the time, I am quite certain that neither Kongsberg nor Toshiba would have decided to sell the technology for submarine propellers to the Soviet Union. If we are dealing with hard-headed businessmen who are driven only by profits, we have little choice but to make COCOM violations unprofitable. Without stern measures, this crime will continue to pay.

I urge the subcommittee to reject the advice you will hear from Administration officials to do nothing. Their feckless pleading in Oslo and Tokyo will be no more effective now than they were earlier, as they begged and pleaded with our allies for nearly 7 years, to enforce the COCOM rules. Even as we speak, our allies lack the legal, institutional, and bureaucratic means to implement the rules. Japan, for example, has 30 people overseeing hundreds of thousands of licenses, and 20 of them have been added since the Toshiba case became public. For more than 2 years the Japanese authorities were aware of the diversion and did nothing. Only public disclosure forced the limited and inadequate measures they have now taken. Norway has only six officials to discharge their international obligation to implement the COCOM embargo. The situation in other countries is similar. And when I urge you, Mr. Chairman, to be cautious in the way you understand what administration officials have to say, let me give you a very precise example.

Mr. Derwinski, for whom I have admiration and affection both, brought with him a prepared statement today, which among other things, points out that the Norwegians have increased by 50 percent the number of licensing officers since the discovery of this case. That is, they have gone from three to six.

Any action taken by the Congress to bar Kongsberg and Toshiba from the American market should be accompanied by a request to Japan and Norway to share the burdens of correcting, even partially, the damage that their abject failure to protect their technology has caused. Why should the American taxpayer shoulder the entire burden alone? The issue is not, as it has sometimes been put, one of reparations. It is, rather, one of fairness and responsibility. A stream of Norwegian and Japanese officials who come to Washington with briefcases bulging with apologies, and little else, offer scant relief. Our message to them should be simple: "Come and see us; but don't leave home without it."

Thank you, Mr. Chairman.

Chairman GIBBONS. Thank you, Mr. Perle.

Mr. Perle, as I see the role of this committee, it is that we have before us some pieces of legislation which we are required to dispose of, and dispose of in an intelligent manner. I do not think that we have the jurisdictional authority to go quite as far as you are asking us to go, although obviously, you have touched upon a subject that is close to all of our hearts.

One of the things that I would like to do is to find some way to punish Toshiba without punishing innocent American bystanders, people who have, perhaps years ago, bought Toshiba equipment, depend upon Toshiba for servicing and for spare parts, and for things of that sort.

Do you know of any way that we could possibly punish Toshiba but not shoot a lot of our own constituents at the same time?

Mr. PERLE. Well, I know of no way that you can reduce to zero the ricochet effect of action against Toshiba or any other large multinational firm.

I do believe it is possible to hold to a reasonable level the adverse impact on individual Americans, and American companies, and there are a variety of ways in which that could be done. Clearly, a transition period during which American users of Toshiba components could find alternative sources of supply, so that their product line can continue to be manufactured and sold, would be one example.

After some reasonable period of time, they would be required to find an alternative supplier. Indeed, one might even structure this in such a way as to encourage searching for an American supplier. I think there are going to be a variety of specific problems that can be dealt with by specific elements in a piece of legislation.

But I have another idea which seems to me rather a better one, and that is to take action now, because if you do not take action now, nothing is going to happen.

Take action now, and, at the same time, give the President the authority, if he is able successfully to negotiate an agreement with Japan, and an agreement with Norway that gives us some confidence that there will not be a repetition—and that provides some reasonable sharing of the burdens of this tragedy—to set aside the restrictions that would be imposed.

And I am confident, that under those circumstances, you would be putting in the hands of the administration the leverage it needs to negotiate effectively and to accomplish a result. Without that leverage, there will be no successful negotiation, in my view.

Chairman GIBBONS. I realize that there are two companies and two countries involved in this, and I have not mentioned Kongsberg because, while its crime against the United States is equally large, I just do not run into it as a great supplier in the American market.

Mr. PERLE. It is not.

Chairman GIBBONS. And that our ability to crack down on it is not nearly as great as it is on Toshiba. But do you know whether Kongsberg is involved in any defense contracting in this country?

Mr. PERLE. It is eagerly pursuing a contract for the supply of a shipboard missile called the Penguin, and I believe it is the view of the Norwegian Government, that if Kongsberg is prevented from selling the Penguin to the United States it will have a very serious

effect on the fortunes of that company which has been reorganized recently.

They also participate in the F-16 program and in a variety of other contracts with the Department of Defense.

Chairman GIBBONS. They are involved in the power plant manufacture, is that right, in the F-16 program?

Mr. PERLE. I believe that is right. I think they do turbine blades, and a variety of other things. It is a high-technology company.

Chairman GIBBONS. But as far as you know, they do not supply the civilian market with any goods, consumer goods?

Mr. PERLE. I do not believe they do.

Chairman GIBBONS. Mr. Frenzel.

Mr. FRENZEL. Thank you very much for your testimony. It is hard not to call you Mr. Secretary, with you so fresh out of harness. There are many questions one might ask. I guess the most appropriate is that you paint a very grim picture of the workings of COCOM and the cooperation of the allies. To be sure, it is not this committee's function to be able to pass legislation encouraging better cooperation, but can you tell us what we ought to do to make the whole organization stronger?

Mr. PERLE. I sure can. Let me say first, Congressman Frenzel, that the committee whose responsibility it is has failed over the years to do anything significant in order to encourage COCOM to take its responsibilities more seriously, and more importantly, it has done nothing to give the administration the negotiating leverage with which to elicit a better performance from COCOM.

This, too, is an issue on which I have had differences with Congressman Bonker who chairs the subcommittee, because it seems to me that a great deal could have been done in the past that by now would have paid significant dividends.

I do not think this case would have happened, if we had started 6 or 7 years ago, to implement a program to strengthen COCOM, and some of us in the executive branch tried, but we did not have much leverage.

The first and most important thing you can do is pass a very simple statute which would give the President, or his designee, the authority to take action against companies that violate the COCOM regulations. Severe action, action like barring imports, so the question of retroactivity would not arise.

A broad general statute is needed. There is no such statute now. Senator Heinz, I believe 2 years ago, proposed such a statute. It was watered down to the point where it is ineffective, and I think the legislation to which Congressman Bonker referred earlier is also ineffective because it requires a majority vote of COCOM member countries. You will never get that, and, even if you did, there are other defects in that legislation.

So a very simple and straightforward amendment that authorized retaliatory measures against companies that violate the regulations would be a very powerful inducement to companies all over the world that do business in the United States to make sure that they are policing their own activities.

I do not think we can count on other governments to show the same interest that we do, because we are far more security conscious than most other COCOM member countries, and perhaps

more important, we have a steady stream of information that has made it plain to us how severe the consequences are of predatory Soviet tactics in acquiring our technology, and this is not well understood by other countries.

So I think we could do that, and we could insist upon a significant strengthening of COCOM which means a real staff and a real capability to collect data, and to collaborate, and some money to support that activity.

And if the other members will not go along with it, then I think we should be prepared to look hard at how sensitive the technology is that we are prepared to license for sale to them.

Mr. FRENZEL. It seems reasonable that Toshiba and Japan, and Kongsberg and Norway, are not the only companies or countries involved in this kind of thing. This happens to be a prominent case. It seems to me that whatever we do, we ought to ensure that we go beyond simple wrist-slapping, and ensure a system that somehow works reasonably in the future.

Therefore, I am grateful to you for making these suggestions.

Mr. PERLE. There is one other rather simple thing that you could do, Congressman Frenzel, and that would be to pass legislation that would read something like this:

None of the relaxations contained in H.R. 3 will go into effect until the President has reported to the Congress that the other members of COCOM have adopted a system of controls and enforcement that is comparable to that now operated by the United States.

This would have two effects. One is, I think it would enable our negotiators in Paris to achieve an important result, and second, it would give us a level playing field. I have sat, with considerable sympathy, for years, and listened to the proprietors of American industry complain that in competition with companies abroad in COCOM-member countries, they are burdened by licensing requirements and delays that do not affect the competition. And they are placed at a competitive disadvantage as a result.

And this was the central theme of the report of the National Academy of Sciences that was referred to earlier. There are two ways to get a level playing field. One is for the United States to sink to the lowest common denominator, to the level of those countries that are careless and indifferent about export controls, and then you will get a lot of Toshibas.

The alternative, which is far preferable, is to insist that our allies adopt the standard that we have in place, and I believe that could be done with a simple piece of legislation.

Mr. FRENZEL. Well, of course you are again asking us to shoot ourselves in the foot until our allies agree with our way of doing business. I must admit, that I take quite a different point of view about H.R. 3—the same point of view as Congressman Bonker—I read the Academy of Sciences' report a little differently than you do. You should know that in some circles you have been characterized as the "\$9.3 billion man."

Mr. PERLE. Yes. That figure is plucked from thin air.

Mr. FRENZEL. Yes, sir. Published by such subversives as a couple of former secretaries of defense.

Mr. PERLE. I know, I know, and I know who wrote the report, too, but that figure was done by a consultant, former employee of the Commerce Department, and it is rubbish.

Mr. FRENZEL. Well, I think we have slightly different versions of definitions of rubbish. I think we have a joint determination to try to plug some holes here that need to be done, and I am very grateful to you for your testimony.

Mr. PERLE. Thank you.

Chairman GIBBONS. Mr. Guarini.

Mr. GUARINI. Thank you, Mr. Chairman.

Mr. Perle, I thank you for your fine statement, and I agree with a great deal of what you said. It is appalling and shocking, and frustrating, and when you think of the fact that Japan pays 1 percent of GNP for world security, and we pay 6.9 percent, and that all of NATO, that Norway is part of, pays perhaps 40 percent—from figures I have seen—for the security in NATO, and we pay 60 percent, and then to have something like this happen, seems to be ironical, that we should sacrifice our own security, and our own economic existence for the treatment that we are receiving.

And I am a little in the dark as to exactly what motivated all of this. I do not know whether or not MITI had anything to do with it—probably not—but I do not know whether it was a regular, aboveboard, corporate decision. It may not have been.

I do know of Swiss bank accounts and people in high positions in corporations that are playing games. If so, then all the joint ventures we have could be at risk. We spend \$100 billion a year in the private and corporate sector for science and technology, and for research, and we give it away for a fraction of a percent.

And I am concerned about all the money that is coming into this country, that we are doing with joint ventures with other companies. That all the research virtually will be in the hands of people who can, for profit, if they are unscrupulous, no matter what kind of a deal we make with a foreign nation that is an ally of ours, get into the wrong hands.

And if this happened with an American company, I imagine people would be saying espionage, treason. Now it has happened with a multinational that is doing business here in the United States, and I am wondering whether or not any thought has been given to how these people could be held accountable under our laws, since they are licensed to do business in the United States.

If it is wrong for an American company to do—obviously—and if the foreign companies that are on a par, and they are licensed to do business in our country, commit the same act, why should there be two different standards?

It seems to me that there should be civil damages, there could be criminal actions against the corporation, and against the individuals of the corporation, and we should at least be able to find out what has happened, if they want to continue to do business in this country here.

We should have the executives, we should have the people that are involved, we should get the documents, we should know exactly what it is. Because we cannot protect ourselves in making any laws unless we really know the facts. We only assume that we know the facts.

And we talk about this as though it is an export control or a trade action, where it is really a national security matter, and you do not negotiate national security. You do not compromise national security. I do not trust anyone when it comes to the national security of this country, no matter how close that ally is.

Because when people go to bed tonight in America, they rely upon their Government to protect them. 240 million people are in peril tonight because we have less security in our nation tonight because of Toshiba and Kongsberg. And I am just wondering whether or not any thought has been given on your part as to whether we could do anything to treat them like an American corporation, since they are licensed to do business here?

Mr. PERLE. Well, this gets into some pretty complicated legal issues.

Mr. GUARINI. I know, and sometimes there could be more law made because something like this probably never happened before.

Mr. PERLE. Well, there will be more lawyers—

Mr. GUARINI. And could a multinational be responsible to the nation that it is making money in? Could they be held criminally and civilly liable?

Mr. PERLE. I would rather doubt that you could get a quick resolution of that issue. I think you would be tied up in the courts for years. It does seem to me the most expeditious course would be to take some impressive action immediately, legislatively—

Mr. GUARINI. I agree with that.

Mr. PERLE [continuing]. And then against the background of that, if there are compromises and arrangements that can be worked out that are in the interests of the United States, I think the Executive ought to have the flexibility to do that. But they will not do it unless they are required to. And I have spent enough time in the executive branch to know that.

And they will not be able to do it successfully unless there is some leverage which they do not now possess. So it seems to me that we have several purposes to accomplish. One is to make a clear example of the companies that have been involved in this, and there are other companies as well—we tend to talk about only two of them—because that will have a significant deterrent effect on others.

Second, and I think most important, is the enactment of a statute that gives the Government the authority to take action in cases like this, so that we do not have to come to the Congress in the aftermath of a serious loss like this and look for legislation.

Mr. GUARINI. I agree with you.

Mr. PERLE. It ought to be on the books, and had it been on the books, this would never have happened. And third, and perhaps most important—

Mr. GUARINI. No, would it happen, though? You see will it be a deterrent? If some person is making \$50 or \$100 million from a foreign government that is an enemy of ours, that goes into a Swiss bank account, it would happen anyway, no matter what kind of a treaty you made with the other country.

The fact is we do not know exactly what happened, and we will never find out unless those allies of ours make these people respon-

sible to answer the kind of questions that a court of law or a congressional committee can ask.

Mr. PERLE. Well, I am sure the Japanese authorities will share the results of their investigations with us. We do know quite a lot. We know that the profits from these transactions were minuscule.

Mr. GUARINI. Yes, but would you trust their investigation when corporate Japan really runs Japan? Their power in their country is stronger than the power of our corporations because our societies are not similar.

Mr. PERLE. I do believe that the police authorities in Japan are pursuing this with some considerable vigor. We have multiple purposes. One purpose, surely, is to strengthen the overall regime so that we do not have a recurrence.

Mr. GUARINI. Well, Mr. Derwinski said that he did not feel comfortable, that Japan was acting fast enough, or well enough on our behalf, and I think that that really says something because if the security of our country is involved, then I think every step, short-run and long-run steps, should be taken, and that we should use every lever to try to protect ourselves as much as we can.

If we lost \$30 billion in this endeavor, or five or ten years in time and technology, nothing that they give us, in dollars, will ever make up for it.

Mr. PERLE. No.

Mr. GUARINI. Let me ask you one other question. I understand—and much has been said about COCOM—that the technology that was involved was the technology of Toshiba and Kongsberg.

And that it was not United States' technology at all. And if that is so, how can we really be expected to be protected by COCOM?

Mr. PERLE. Well, under the COCOM agreement—which is an informal agreement, but to the degree that it has worked at all, it has worked for a long time in an informal manner—under that agreement, we, and the Japanese, and all the other COCOM member countries, have agreed not to sell machine tools with more than two axes or three axes. It does not matter whose machine tool it is. If it has more than three axes, it cannot be sold, and in this case it was a nine axis machine tool, the military significance of which was well understood by the people who sold it, and by COCOM generally.

And so we have an agreed upon list of what can and cannot be sold, and what you have here is a violation of that list.

Mr. GUARINI. No one has been more diligent than you have, Mr. Perle, and I want to commend you on that, because you have been a very determined man in this particular subject matter of losing our technology. But if they violate, we just have a treaty that is broken. What we have got to do is find other ways to make our technology more secure and not put it in other hands.

And we think now it is great to have foreign countries come in and invest money, and do research in joint enterprises, and share all our technology, when the truth of the matter is that we are ill-protecting ourselves from a national security viewpoint.

We look upon it as dollars and cents, and not the security of America, and I think that we have got to think deeper than just saying two years or five years, you cannot trade in the United

States. So a company goes bankrupt, what does that mean to us? It does not give us any protection, whatsoever.

Mr. PERLE. I think it is quite true, that damage can be done for which there is no repair, but I am a great believer in structuring the incentives for individuals and institutions to act in a manner that serves the public interest, and in this case—

Mr. GUARINI. Yes, but I am not naive, and I am not trusting, and I only trust our Government and our people, and I do not want to go abroad and have things like this happen. This is the only one that came to our attention.

I wonder what is out there that never came to our attention, that we do not even know about.

Mr. PERLE. Oh, well, there are a great many other cases—

Mr. GUARINI. Of course.

Mr. PERLE [continuing]. Including a great many that we do know about, in virtually every country that is a COCOM member. But it would be a step forward, I hope you would agree, if the United States, deciding on its own, were in a position to impose sanctions in cases where the rules are violated, because then a potential violator has to weigh the costs and the benefits. And clearly, if the figures I have seen are correct, and Toshiba does \$3 billion worth of business in the United States a year, the \$17 million they earned for the sale of these machines is so trivial alongside what they stood to lose, that they would not have made the decision that was made.

Mr. GUARINI. Well, it is not a dollars and cents proposition. It is a proposition which really threatens the future of our country, and I would do everything I could to get these people here, who will probably be, for the statute of limitations, a civil action, and maybe someone will get a slap on the wrist for a misdemeanor, which will not really resolve anything for us.

And we will just go on passing laws and people will go on breaking treaties, because a lot happens when the dollar is involved. And when you are talking about trade high secrets, or high secrets in military, there is no limit to how much money could exchange hands, that you and I will never even know.

And I just think that there should be a way that we could get at these individuals that are doing business as a foreign corporation in the United States, and find a way to criminally prosecute them. Thank you.

Chairman GIBBONS. Let me ask you a couple of questions before we break to go over and vote.

How many more cases are there on the record like this that you know of?

Mr. PERLE. Well, there are a great many cases, Mr. Chairman, in which sensitive technologies have reached the Soviet Union through schemes in which sales were made to apparently legitimate entities, principally in Europe, but also in Japan, that turned out to be dummy corporations organized for the purpose of acquiring and then transshipping embargoed technology to the Soviet Union.

There are hundreds of cases like that, and sadly, Mr. Chairman, in many countries, the authorities do little or nothing about it. There is a man in jail now, a fellow by the name of Bruchausen, a

West German national, in jail in the United States by the way, who transferred tens of millions of dollars of sensitive military technology to the Soviet Union, and we could never get the German authorities to do anything about it.

We finally managed to—he made a mistake. He went to the United Kingdom, and the British authorities arrested him, and he was ultimately extradited to the United States. And now he is in jail.

There are others resident in the Federal Republic of Germany today. We know who they are, we know what they have done, and the German Government will not do anything about it. And there are other governments in a similar situation.

So the problem is not confined to Japan and Norway. It is not confined to Toshiba and Kongsberg. It is a broad problem that requires a broad solution, which is why I very much hope that some action will be taken to give us some legal authority to take action against these cases, because only then will we have built a disincentive into the system of controls.

Chairman GIBBONS. Let me ask you a question that is not quite germane to this, but, in your opinion, is any level of trade with Russia, or with the Eastern bloc countries acceptable to you?

Mr. PERLE. Oh, yes, absolutely. I am all in favor of trade in commodities and services that are not going to strengthen the Soviet military establishment. Indeed, trade in consumer goods, trade in a variety of services, I think is very much worth pursuing. I would like to see more of it. Trade in agriculture, for example.

But trade that makes the Soviet military more efficient and more effective—trade that enables them to develop an armor-piercing shell that will pierce the armor of our tanks, trade that permits them to develop a look-down, shoot-down capability on their interceptor aircraft, so that our strategic bombers will either get shot down or we have to make a huge investment in countering that capability—that trade seems to me very foolish, indeed, and there is a great deal of it. I cannot think of a more effective way to buy defense for this country than to invest the small amounts of money necessary in an adequate control system, because for every dollar we invest in the controls, we save potentially hundreds of thousands of dollars by preventing cases like the one we have just seen.

And we could finance export controls until the end of time with the cost of this single transaction, the cost to our security of this single transaction.

So it is a highly leveraged enterprise, especially, if we can persuade our allies to join with us and make this a more effective embargo, we will reduce the defense burden on the American people, and our allies as well.

Chairman GIBBONS. Let me say, gentlemen, there is a vote on and we do not have much time. Do you want to inquire? Have you voted?

Mr. PEASE. Yes. I have voted.

Chairman GIBBONS. You voted. Well, why don't you take over then. We have got the next panel still. I will be right back.

Mr. GUARINI. Mr. Perle, let me say, the country is going to miss you.

Mr. PERLE. Well, I am not going that far—

Mr. GUARINI. I did not always agree with you, but I do think that your basic philosophy is correct, and you certainly have stood in the vanguard of trying to protect our technology, and it is unfortunate that it has been whittled away and given away so readily.

Mr. PERLE. Well you are kind to say that, and I do agree with Under Secretary Derwinski, that maybe this case, because the scale of it is so breathtaking, because the damage is so great, will cause people to rethink and we will become more energetic and more effective in preventing against future such cases.

Mr. GUARINI. I know, but what we are doing is just strengthening COCOM. We are just going to get more of the same, and it just seems to me that there has to be a better way to make our country more secure, than just trusting our future and our fate, and our destiny, in the hands of people that we question.

Mr. PERLE. Well, that is why, if I may say so, I think it is important that any authority to take punitive action should rest entirely with the United States, so no matter where the problem originates—whether it is in Japan or Norway, or somewhere else—we, and we alone, would make the decision to deny access to the American market, or, to take, one can imagine, other punitive actions.

But the whole point is to discourage this sort of activity by making it costly. At the moment, this is a crime that pays. There are people who get rich on this sort of transaction.

Mr. GUARINI. No question. You see, we live in a world, now, that there are multinational corporations. Our corporate law basically is structured on the country that you file your charter in.

Well, these companies, now, and corporations, are doing business in every nation, and I think that the world is changing a lot, but the business mode has not caught up with those changes, and, to me, if an individual or a company commits espionage or treason, it should be called that, regardless of where it happens.

Mr. PERLE. Oh, I agree with that.

Mr. PEASE. I guess the question revolves around strengthening COCOM. I think you don't have complete faith that that is going to happen. I would probably have less faith than you have that that's going to happen. So the ultimate question in my mind is what can we do unilaterally on our own side to deal with what we think is a serious problem in the trade context.

If you have dealt with that before, if you just could just summarize for me what you said, I would appreciate it.

Mr. PERLE. Well, I do think the most useful thing we could do is provide a sanction at the disposal of the American authorities, and no one else, the event that COCOM regulations are violated. That, I think, will radiate out and cause officials in companies like Toshiba around the world in COCOM member countries to institute real systems of control.

I think it will also cause COCOM member governments to take their responsibilities seriously.

A country the size of Japan with the volume of foreign trade that Japan has cannot implement the COCOM list of embargo technologies with 10 people. It just can't be done. And if you have 10 people assigned to that responsibility, what you are saying to Toshiba and Mitsubishi and all the others is we are not serious about

this, because if we were serious, you'd know it. And, as you can see, we're not.

Let me give you what I think is a striking figure. There is a procedure in COCOM by which a country that wishes to sell something on the embargo list can request COCOM approval. All the countries have to agree. It's an exceptions procedure. And we make a great many exceptions nowadays, all of us in COCOM, for sales to the People's Republic of China. And I happen to approve of that policy.

The United States has pending now in Paris, in COCOM—that is waiting for approval—something like 450 requests. And while those requests are pending, American companies are waiting for a license. Until they get that license, they can't sell.

Japan, which does a bigger volume of trade with the People's Republic of China than we do, significantly larger, has 30 requests pending.

Now, I think there is only one inference that one can draw from that, and that is that the Japanese authorities and Japanese industry are ignoring the agreement that we have between us to go to COCOM and apply for exceptions according to the list that's agreed between us.

Now, I don't know how you change that except by making it costly to continue business as usual. And one way to do that would be to give the President the authority to bar imports, or take other action. He may not want to bar imports; he may want to bar exports too, or to take other action against companies that violate the regulations, or impose fines.

I should think if Toshiba is doing \$3 billion worth of business in the United States, a quite sizable fine would be justified just in commercial terms. That is, Toshiba would pay such a fine rather than be excluded from the market.

So one can design a menu of measures that would be a powerful disincentive.

Secondly, I think a great deal could be done to strengthen COCOM. And I believe that it is a great mistake to proceed, as the House seems intent on doing, with a series of amendments to H.R. 3, which have already passed the House, similar amendments are under consideration in the Senate, to weaken significantly the American system of export controls at precisely the time that we're learning how much damage can be done in a case like this.

And among the controls that would be abolished by H.R. 3 is the requirement that sensitive technology sold to Japan should be subject to license. So we are in the ironic position of proposing sanctions against Japan on the one hand while, on the other hand, opening the floodgates so that any high technology produced in this country can be sold freely to Japan without a license.

Mr. PEASE. Would not, however, that equipment be subject to controls if it was to be reexported from Japan?

Mr. PERLE. Only if the Japanese, who have a demonstrated inability to enforce the rules, were to enforce the rules. So what you're doing is sending it off into the void.

The Senate bill in this respect is even worse because the Senate bill would drop reexport controls.

Mr. PEASE. Okay. Well, I've read before some excerpts from Article 21 of the GATT which clearly give us the authority to impose statutorily the kinds of sanctions that you mention. And I think personally at a minimum that this committee in the trade bill that we are now considering ought to give the President explicit authority to take any and all actions that he deems fit in order to deal with these situations.

Let me ask you about one possible extension of that. Right now we have unfair trade practices statutes, section 301 primarily, which make it an unfair trade practice for a nation or for individual companies to take certain actions to violate patents, deny market access, and so on.

That broadens the initiative from the President to any aggrieved party who can petition USTR claiming an unfair trade action by a company or a nation. And then the USTR has to go through the process deciding whether the charge is accurate or not. Ultimately then, it gets to the President for a decisionmaking at the end.

Would you think it would be worthwhile for us to include violation of COCOM regulations as an unfair trade practice subject to this procedure that could be used by groups or individuals outside of the Government?

Mr. PERLE. I think that's an interesting idea, and I frankly would want to reflect on the issues of detail that arise out of that idea. But I would be in favor of enacting Executive authority to take action in the case of violations in as many legislative vehicles as possible because I think between here and statutory authority, there are a lot of uncertainties.

I think H.R. 3 may well wind up vetoed, at the end of the day. The stand alone legislation that's being looked at here might wind up vetoed by the President, and you could, at the end of the day, have nothing at all.

So I would like to see action in multiple pieces of legislation because I think there's a greater likelihood that something would survive if that were done. And I do believe that it would be a good idea with whatever set of sanctions might be voted to give the President the authority to set them aside in the event that a suitable agreement can be worked out between the governments involved, between the Japanese and the American Governments, between the Norwegian and the American Governments.

These are good allies, and if they have an incentive to sit down with us at the negotiating table and work something out that reflects the damage that has been done, and reflects a sense of responsibility, I think it should be possible to remove any sanctions in those circumstances, but only in those circumstances. And frankly I think without sanctions, we will get apologies and we'll get expressions of profound regret, but we won't get any action.

Mr. PEASE. Thank you very much, Mr. Perle. We've enjoyed your testimony, and I think it's been very valuable to us. And we will let you go home for the evening and call up our next panel.

Mr. PERLE. Thank you very much.

Mr. PEASE. Our next panel will consist of representatives of Audiovox Corporation, Advanced Telecomm, Compu-Phone, Apple Computer, Computer and Business Equipment Manufacturers Association; Computer and Communications Industry Association.

You all come and take your seats, please.

Mr. GUARINI [presiding]. Gentlemen, be seated. We will call our next panel.

Phil Christopher, president of Audiovox Corp.; Bruce Reale, president, Advanced Telecomm; Dawn Spain, president of Compu-Phone; James Johnson, Director of Government Affairs of Apple Computer, Inc.; and Joseph Tasker, Jr., counsel, and Edward J. Black, vice president, Computer and Communications Industry Association, for the Computer and Business Equipment Manufacturers Association.

Welcome all of you. And would Mr. Philip Christopher of the Audiovox Corp. please proceed.

Your statements will be placed in the record, and perhaps it would be sufficient if you would comment and make whatever statements that you wish to make.

**STATEMENT OF PHILIP CHRISTOPHER, EXECUTIVE VICE
PRESIDENT, AUDIOVOX CORP.**

Mr. CHRISTOPHER. Thank you, Mr. Chairman.

I flew from New York this morning obviously to make these remarks. I thought it would be important to be on the record. And I appreciate the fact that the remarks will be entered in the record.

I also appreciate very much the opportunity to present before this Subcommittee information about our group of companies, American companies which have been inadvertently included in the Senate's Toshiba ban. My company, Audiovox Corp., which began over 20 years ago, is headquartered in Long Island, New York, is one such company among others.

Let me begin by telling you what my company and others like us are not. Although Toshiba produces one of the products we sell, we are not owned by Toshiba, we do not answer to the Toshiba Board of Directors, and we do not send our profits to Toshiba headquarters.

Although Toshiba produces one of the products we sell, we are not even an American distributor for Toshiba. We are instead an American company, like General Motors or Chrysler. We are a public company trading on the American Stock Exchange. We have an American Board of Directors, American management, and American employees. And our profits stay with the American employees.

Also, like General Motors and Chrysler, we in effect hire other companies to make some of our products. And like General Motors and Chrysler, the company we hire may be a foreign company. We send our company's engineers to the plant to give that foreign company the specifications for our product that we are paying them to produce. When the product arrives, it has our name on it. We check each one to ensure that it meets the company's quality. We service the product, we warranty the product. And we sell it and we service it all over the United States.

Companies like mine that follow this process are known as original equipment manufacturers. In our case, Mr. Chairman, the product that Toshiba produces for Audiovox is a cellular telephone. The cellular technology is fairly new. It was introduced back in

1983, and through 1986, 700,000 car telephones have been sold in this country. And in 1987, an additional 500,000 car telephones are expected to be sold in this country.

Audiovox Corp. has its product produced by Toshiba and it carries the Audiovox name, we advertise the Audiovox name, and in no place can you see the Toshiba name.

So obviously I just want the panel to understand what an OEM company is. And there's many OEM companies like ours in the United States that make their product overseas.

Two weeks ago, the United States Senate attempted to send a strong message to Toshiba by enacting an import ban on their products. The Senate went out of its way to protect from the ban those who could bear more of the responsibility for the wrongdoing.

American companies that have written contracts with Toshiba were exempted.

The Senate also went out of its way to protect Americans as much as possible from the ban. Even Toshiba-owned plants in the United States which employ Americans were exempted.

Obviously OEM companies like ours could not possibly be considered responsible in any way for what was done by a subsidiary of a company we contracted to produce our telephones.

Why then were not the OEM companies exempted? I think the answer lies basically in the speed with which the Senate took action.

Frequently, when the legislative process is short-cut and deprived of the Congress' deliberate and detailed hearings and markup procedure, these errors occur. Thank God that we can have hearings like this and suggest technical amendments which the legislative process uses to correct these errors.

Apparently the Senate did not know that the American OEM companies which hired Toshiba do not have written contracts per se but, instead, operate on a verbal arrangement. We have a business relationship. This business relationship has been going on with our company, Audiovox, for more than three years. We buy to the tune of 10,000 to 15,000 cellular telephones per month. We open the letters of credit 45 days in advance. We bring the product in. We quality control the product. We service the product. We advertise the product and we sell the product. At all times it carries an American name, the Audiovox name and, in no way, is connected with the Toshiba Corporation.

Apparently the Senate did not know how very American our companies are and how far we are from Toshiba subsidiaries. No one from the Senate asked any member of our company or any other company for details about the OEM companies.

Given the fact that the American OEMs account for only a small percentage, less than 2 percent, of Toshiba's worldwide sales, the exemption for OEMs from the ban would have an insignificant impact on the ban's effect on the Toshiba Corporation.

Given the fact that the ban could cause a major disruption to some of the American OEM companies, the exemption makes American employment sense.

Given the fact that Audiovox has more than 1,000 employees in 17 States, and all the American OEMs have thousands of employ-

ees in all the States and districts, it makes American economic sense to exempt the OEMs from the ban.

Given the fact that OEM Toshiba-made products bear the OEM American name, the exemption of OEMs from the ban would have absolutely no effect on the ban's impact or on the Toshiba name at all.

I would like to ask the members of this Subcommittee to help the American OEM companies secure the technical amendment necessary to correct the Senate's action should the Toshiba issue be handled in the trade bill conference. Basically that's what we are asking, Mr. Chairman.

I came here representing Audiovox. Audiovox is an American company with American management, more than 1,000 employees. We have 40 branches across the United States. We advertise our name. We have worked for 20 years to bring our company to the public forum. It's a public company trading on the American Stock Exchange. And obviously we had the misfortune of utilizing Toshiba to produce our cellular telephones.

So if this enactment becomes law, you can see that Audiovox will be dramatically hurt. And, of course, the question is, well, can you find other manufacturers to manufacture this particular product? Perhaps you could, but the interruption that it would cause, and the time period that is needed to bring new products in, it will cause a negative impact on our company.

So I wanted to bring this message to you. I think the testimony is on record. I appreciate the fact that you allowed us the time to testify. And I would like to answer any questions if you have any.

Thank you.

[The statement of Mr. Christopher follows:]

TESTIMONY
BEFORE THE TRADE SUBCOMMITTEE OF THE
HOUSE WAYS AND MEANS COMMITTEE

BY

PHILIP CHRISTOPHER
EXECUTIVE VICE PRESIDENT
AUDIOVOX CORPORATION

I appreciate very much the opportunity to present before this subcommittee information about a distinct group of little understood American companies which have been inadvertently included in the Senate's Toshiba ban. My company, Audiovox Corporation, is one such company. It was started over 20 years ago, is headquartered on Long Island, New York, and is traded on the American Stock Exchange.

Let me begin by telling you what my company and others like us are not. Although Toshiba produces one of the products we sell, we are not owned by Toshiba, we do not answer to a Toshiba board of directors, and we do not send our profits to Toshiba headquarters. We are not an American distributor for Toshiba.

We are instead an American company like General Motors is an American company. We have an American board of directors. Our profits are controlled by that American board, and go to our American stockholders and to our American employees. Also, like General Motors we hire, in effect, other companies to make some of our products and, like General Motors, the company we hire may be foreign. We send our company's engineers to that plant to work with that foreign company and provide them with specifications for our product we are paying them to produce. When the product arrives, it has our name on it, we check each item to ensure that it meets our company's standards, we warranty it, we sell it, and we service it. Companies like mine that follow this process are known as original equipment manufacturers (OEMs).

Two weeks ago today the United States Senate attempted to send a strong message to those responsible for the sale to the Soviets of technology that injured our national security. Since the Senate was unable to hit those directly responsible, they tried to hit as close to the guilty as possible.

The Senate, however, went out of its way to protect from the ban those companies who could bear none of the responsibility for the wrongdoing. American companies controlled by American boards of directors with preexisting Toshiba product contracts were exempted. The Senate also went out of its way to protect American employees as much as possible from the ban.

Obviously OEMs like my company could not possibly be considered responsible for what was done by a subsidiary of a company we hire to produce a product for us. And, obviously OEMs are thoroughly American.

Why then were the OEMs not exempted? I think the answer lies in the rapidity of the Senate action. Frequently when the legislative process is short cut and deprived of the Congress' deliberate and detailed hearings and mark up procedure, these errors occur. Technical amendments usually correct these errors.

Apparently the Senate did not know that many American OEM companies which hire Toshiba to make a product do not have written contracts per se, but instead operate on an unwritten contract which is based on an understanding evidenced by a regular pattern over time of sale and purchase transactions. The Senate's definition of a contract failed to take this reality into consideration and failed to exempt the American OEM companies.

Apparently the Senate did not know how very "American" our companies are, and how far we are from Toshiba's subsidiary that committed the wrongdoing. No one from the Senate asked anything of anyone in my company or the other OEMs with whom I have spoken. There was no time to do so.

Given the fact that American OEMs account for only a little more than one and a half percent of Toshiba's world wide production, the exemption of OEMs from the ban would have an insignificant impact on the ban's effect on the Toshiba Corporation. Given the fact that the ban could cause a major disruption to some of the American OEM companies, the exemption from the ban makes American employment sense. Our company has non-Toshiba products and ultimate alternatives to the Toshiba product that other OEMs may not.

Given the fact that Audiovox has 1,200 employees in 17 states and all the American OEMs have tens of thousands of employees in all the states and districts across the country, it makes American economic sense to exempt the OEMs from the ban. Given the fact that the OEM Toshiba-made products bear the American company's name, the exemption of OEMs from the ban would have absolutely no effect on the ban's impact on the store shelf. In short, from the perspective of those in the Senate who want to hit Toshiba, it makes no sense to include the American OEM companies.

I would like to ask the members of this subcommittee to help the American OEMs secure the technical amendment necessary to correct the Senate's action should the Toshiba issue be handled in the Trade Bill conference.

Thank you.

Chairman GIBBONS. Before we go to the rest of the panel, let me interrupt and suggest that we examine each one of these witnesses as we go along, Frank, because they may have different stories to tell.

And I don't know what an OEM company is. OEM company, can you explain it to me?

Mr. CHRISTOPHER. Yes. OEM stands for original equipment manufacturer. Many companies in the United States, Mr. Chairman, source their products overseas. For 20 years, our companies have been sourcing their products in the Far East.

Chairman GIBBONS. It would have "Made in Japan" on it though, wouldn't it?

Mr. CHRISTOPHER. Well, not necessarily. We make automotive sound equipment in Korea, Taiwan, in Hong Kong.

Chairman GIBBONS. Well, I mean it would have that it was foreign made?

Mr. CHRISTOPHER. Yes, yes. But in some cases in OEM you can also have an American company make an original equipment product.

An OEM company is a company that engineers the product, specifies the product, and then finds a manufacturer to produce the product.

Chairman GIBBONS. Do you own the patent or the copyright on it?

Mr. CHRISTOPHER. On some products. On this particular product that is produced by Toshiba, we do not. That technology belongs to Toshiba. Toshiba makes the cellular telephone, we join with them in terms of engineering, and the product is produced by Toshiba. It carries the Audiovox name, the OEM name of Audiovox, which is an American name, and in no place can you find the Toshiba name.

Chairman GIBBONS. How long would it take you to convert to another manufacturer?

Mr. CHRISTOPHER. Well, first, Mr. Chairman, you must find a manufacturer that has that technology. The cellular technology is a fairly new technology and not many companies have it.

In the United States there's two domestic manufacturers, Motorola and GE. The rest of the manufacturers are Japanese companies. The rest of the Japanese companies, unfortunately, are here in the United States competing against me, companies like Panasonic, NEC, Audi, Mitsubishi, are all competition. Toshiba does not sell cellular telephones in this market, and Audiovox is the sole representative of the Toshiba telephones in this market.

So it would be very difficult to find another source, although not impossible. But it would take time obviously to find another source and to develop the product and, of course, for the product to be accepted in the market.

Mr. GUARINI. Are the products made in the United States competitive price wise and quality wise with the Japanese counterparts?

Mr. CHRISTOPHER. Yes. In some cases, they are very, very competitive. And there's two domestic manufacturers in that particular product line, Motorola and GE, and they're very competitive.

Mr. GUARINI. Are you asking to just complete the contracts that you have that are firm now, or just to continue doing business?

Mr. CHRISTOPHER. Well, as I specified, the method of operation with Toshiba is not really with a contract. Since 1985, our company has been doing business with Toshiba on what we call a business relationship. This is a common practice with other OEM companies that deal with Toshiba.

There's companies that buy copiers, facsimile machines, and other products from Toshiba under the same arrangement.

Mr. GUARINI. Who do you contract with?

Mr. CHRISTOPHER. We contract with Toshiba. It's a business relationship between Toshiba Corp. and Audiovox. The answer is a business relationship.

Mr. GUARINI. Now you're asking for an open-ended contract, you're not asking to fulfill a contract that's in process now?

Mr. CHRISTOPHER. Well, it depends on what your definition of a contract is. We're a business relationship that's been in existence for three years, which requires us to buy quantities, to open letters of credit, to bring their product in, to service their product, quality control and warranty the product. Is that a contract?

Under the definition of the amendment that came through the Senate, that is not a contract. If we were to define a contract, as far as I am concerned, if I am dealing with Toshiba for three years under this arrangement, that constitutes a contract. It's a business relationship that has been in existence for three years, and we have been doing business in that fashion.

Mr. GUARINI. So then what you're saying is that you want to continue doing business and grow as you are with Toshiba?

Mr. CHRISTOPHER. Well, our objective, Congressman, is to see the American OEM companies exempted.

We are troubled by the sale of the technology to the Soviet Union. As American citizens, we're troubled, and we heard all the remarks today. But, at the same time, in the process of punishing Toshiba, I don't see why American companies who have been doing business for years should be punished in the process.

I don't think it was the intention of the Senate or the Congress to punish American companies, American management, American employees.

Mr. ARCHER. Mr. Chairman.

Chairman GIBBONS. Mr. Archer, would you like to ask some questions?

Mr. ARCHER. Yes. Thank you, Mr. Chairman.

I'm not sure whether this has been addressed already in our hearings today, but I suppose since you're the last panel, I'll address the question to you.

If it is appropriate to penalize Toshiba and all of their domestic production in this country, as well as the component parts that you mentioned that you need in your operation, then would it not also be appropriate to punish Kongsberg and their owners who were definitely players in this entire scheme? Obviously, the ownership of Kongsberg is the government of Norway, as I understand it. The ownership of Toshiba Machine is the Toshiba parent company. I'm just curious, Mr. Chairman, as to whether it would not also be appropriate if we're going to be consistent, to consider that.

Chairman GIBBONS. Well, let me say we've only heard from one member of this panel——

Mr. ARCHER. Oh, I'm sorry.

Chairman GIBBONS. We've only heard from one member of this panel. And the reason why I was asking him questions is because I have a feeling that they all may have a little different interest.

Mr. ARCHER. Well, I'm sorry.

Chairman GIBBONS. Let me ask the panel this question. You all only deal with Toshiba, is that right, you don't deal with Kongsberg? Any of you deal with Kongsberg? Just Toshiba.

Mr. ARCHER. Okay. Well, that question is not relevant then to this panel.

Mr. BLACK. Mr. Chairman, Joe Tasker and I represent two trade associations, and I think our testimony attempts to address a much wider range of issues.

Chairman GIBBONS. All right.

Mr. BLACK. As well.

Chairman GIBBONS. Well, let's go on and take Advanced Telecomm, Bruce Reale.

Mr. Reale.

STATEMENT OF BRUCE REALE, PARTNER, ADVANCED TELECOMM

Mr. REALE. Mr. Chairman, thank you for allowing me the opportunity to come here and speak before you.

Due to the lateness of the hour, I think I'll just——

Chairman GIBBONS. We'll put your formal statement in the record.

Mr. REALE. Thank you.

Chairman GIBBONS. And all formal statements.

Mr. REALE. And I would just like to make a few comments as to what I've heard over the last four and a half hours.

The first thing I would like to do is to just clarify a couple of points.

First of all, the technology that was sold here was sold by Toshiba Machine Corporation of Japan. As Representative Crane had pointed out, that is a publicly-traded corporation. It is independently managed with its own officers and directors.

Outside of an investment which Toshiba Corporation has granted a 50 percent investment, but outside of an investment that it has in the same name that they have, those two corporations, Toshiba Corporation and Toshiba Machine Corporation, have nothing else in common.

This proposed legislation is aimed smack at Toshiba Corporation. It will take into account Toshiba Machine Corporation as one of the affiliates. But the real blow, and I think intentionally, the real blow is directed toward Toshiba Corporation.

I just wonder maybe if Toshiba Machine Corporation had a different name, if it were the Hari Kari Corporation of Tokyo instead of Toshiba Machine Corporation——

Chairman GIBBONS. Let me ask you, do any of you all deal with Toshiba Machine?

Mr. REALE. I do not, sir.

Chairman GIBBONS. Now for any of the panel. You deal with the parent company. All of you deal with the parent company. There's one dissent. You don't deal with——

Mr. JOHNSON. We deal with a different subsidiary.

Chairman GIBBONS. With a different subsidiary.

Mr. JOHNSON. One of the other 37 subsidiaries.

Chairman GIBBONS. I'm just trying to unscramble this as best we can.

Mr. GUARINI. But I think, Mr. Chairman, if I may, if you'll yield for a moment.

Chairman GIBBONS. Yes.

Mr. GUARINI. There is no question that Toshiba is the parent company and it has the majority stock and it gets the profits, and it's all tied up with same interlocking directorate.

Chairman GIBBONS. I'm not arguing with you at all. I'm not arguing with you at all.

Mr. GUARINI. All right. Let's get it on the record. We're talking about the same ball of wax.

Chairman GIBBONS. Well, I know, but I'm just trying to figure out who dealt with whom. One of you deals with the machine company, and you all deal with either Toshiba or one of its 37 other subsidiaries, is that correct?

Mr. REALE. That's correct.

Chairman GIBBONS. All right. Well, go ahead, sir. I'm sorry I interrupted you.

Mr. REALE. That's fine.

Not to disagree with you, sir, but based on other documents I've read today which are reflected in the record as well, I do believe these are two totally separate companies in terms of management and directorates. Just to get it on the record.

The second thing I'd like to clarify is that, with all due respect to the previous panel members who have testified here, I am not a lobbyist, I am not here as a representative of Toshiba Corporation. I'm strictly a business owner. I'm the grandson of Italian and Irish immigrants who has had the good fortune to be educated enough and successful enough and hard working enough to realize the "American dream," that is, to be able to own a business.

My two partners, Vince Lo Castro and Paul Schmidt, and I have invested a great amount of time, effort and money into making our business, Advanced Telecomm, one of the most successful telephone equipment companies in the Pittsburgh, Pennsylvania, area.

I'm here today at my own expense. I paid for everything, it's my time. Because this impacts me directly. My business is hurting. I am hurting because of it. My family is hurting. My business has 1,100 customers who are very much hurting. We have over 50 employees who are hurting.

Why are we hurting? Because the proposed legislation goes right at us. My company sells what we believe is the most reliable and dependable business telephone system available on the market today. It just happens to be manufactured by Toshiba Corporation and distributed to me through Toshiba America, Inc.

By specializing in the Toshiba product line, and only that product line, our business has been able to develop a highly specialized sales and technician type of staff which allows us to succeed and

maintain a competitive advantage over the other players in the industry in Pittsburgh.

I'm sure you can appreciate that the proposed ban against all Toshiba products would have an unbelievable impact on my business. The fact is, with all the publicity, I'm already having a detrimental impact. Potential customers who are considering telephone systems are quite understandably hesitant to commit to a product which may not be available in this country in the near future. Existing customers—and I have 1,100 different businesses in the Pittsburgh area who have this telephone system—they are very much concerned that what they purchased and spent a lot of money for is now going to become an orphan due to this legislation.

Each day, I have 50 employees who wonder if maybe the unemployment office is the next stop for them in their careers. While I don't like to read things when I speak in public, I believe I've got a letter here which is extremely important. It's a letter from one of my employees to his Congressman. And the employee's name is Patrick Erhardt, and he wrote a letter to Representative Joseph Gaydos.

[Reading:]

JULY 9, 1987.

Hon. JOSEPH M. GAYDOS,
U.S. House of Representatives,
Washington, DC.

I am writing this letter in reference to the proposed banning of Toshiba product by the U.S. Senate and Congress. This subject is of grave concern to me and my fellow employees at Advanced Telecomm in Bethel Park, Pennsylvania. We at Advanced Telecomm sell Toshiba telephone systems. This is our livelihood, present and future, that you are talking about banning, and not just a few Toshiba radios being smashed on national television.

My future was smashed once already by the shutdown of Mesta Machine Company in West Homestead where I was employed for nine years. This shutdown made my future very bleak and I was unemployed for three years. This was very hard on me, my wife and two children. After being retrained in the telephone field by the Federal programs, my future started to look much brighter. I am currently the senior technician at Advanced Telecomm. Now it seems that a dark cloud is on the horizon for the Erhardt family, and it is a hammer in the hand of the United States Senate and House of Representatives. So before the hammer strikes, take into consideration what the hammer is really going to hit.

Thank you.

Yours truly,

PATRICK ERHARDT.

I realize time is late. I just think it's important for you to realize that I've got 50 employees. My company is one of 267 dealers across the United States that sells Toshiba telephones. Quick mathematics will tell you we're talking about over 10,000 people just in the telephone business. The telephone business is a very small piece of Toshiba. There's the copier division, the computer division, medical equipment, TVs, VCRs, et cetera.

We have got to be talking over 100,000 hardworking Americans who are going to be blown away by this. And no one appreciates more than me the opportunities that this country presents.

My father was a first generation American, became a highly successful attorney. I, too, am enjoying the success that the free enterprise system of this country presents to people. However, this sale to the Soviets enrages me. I'm a patriotic American, as patriotic as they come. At the same time, there's another news story out which

involves some U.S. Marines who, one way or another, divulged secrets to some female Russian spies. That upsets me just as much. Yet, I don't see anyone proposing that we permanently exile all Marines, their Commanders, the Commander in Chief, because of that action.

By analogy, that's what this legislation is doing. You're going to put out of business tens of thousands of hardworking Americans whose livelihood, day-to-day livelihood, depends on the continued supply of very good products by Toshiba Corporation.

The sledge hammers that were used on TV a couple of weeks ago unfortunately turned out to be very symbolic of what would happen if this legislation were enacted.

I'm no politician, I'm not a political scientist, I'm not an expert on foreign or international affairs. I just know how this would affect me. And I think that it's grossly unfair to impact tens of thousands of people.

Your hearts are in the right place. I think there has to be another way to do it. I don't know how to do it. Like I said, I'm just a businessman.

[The statement of Mr. Reale follows:]

Statement of
 BRUCE REALE, Partner
 Advanced Telecomm, 4909 Library Road
 Bethel Park, Pennsylvania 15102

Before the
 Ways and Means Committee
 U.S. House of Representatives

Subcommittee on Trade

July 14, 1987
 Washington, D.C.

 As a partner in Advanced Telecomm, an independent telephone interconnect company servicing the Pittsburgh, Pennsylvania area, I would like Congress to be aware of the severely detrimental impact which H.R. 2241 and like legislation has had and will have on businesses such as ours.

Advanced Telecomm employs more than 50 full-time employees and serves more than 1100 local customers, plus national account installations across the United States. Being a typical American interconnect company, we compete with giant suppliers such as AT&T, as well as other interconnects. We pride ourselves on providing the best equipment and the best services at the best price. Our success is shown by our sales performance of \$3.5 million to \$4 million per year.

A number of our employees had previously been employed in Pittsburgh in heavy industry and had been permanently laid off. Retrained through federal job training programs, they became skilled technicians on our equipment, are now fully employed and are valuable contributors to our business success.

I came to Advanced Telecomm after working as a tax lawyer with Arthur Young, a major accounting firm. I graduated from Georgetown University and have an LL.M degree. I chose to leave the tax profession to become an entrepreneur.

Advanced Telecomm deals in Toshiba-brand telecommunications products, almost exclusively. We are one of several hundred Toshiba telecommunication dealers across the United States, not to mention the many dealers in Toshiba copier products, information systems, medical equipment and consumer products. We chose Toshiba for a variety of reasons.

One, the equipment is of high quality, is very reliable and is recognized in the industry as the best of its kind. The equipment has Government Services Administration approval as well and qualifies for federal procurement. We have, by concentration in one line of reliable equipment, also been able to develop a highly skilled service and sales force that is specialized and can meet customers' needs.

Two, Toshiba equipment is expandable and migratable. Our customers do not need to replace their telephone systems as they expand; rather, they can add on and can change the "brains" of the system to expand the capacity. This means that the equipment we sell is cost-effective. It also means our customers expect that the equipment we supply will not suddenly become an "orphan" because it will not keep up with their business growth.

Three, because of these factors, we are competitive in not only product and service, but also in price.

Right now, though, H.R. 2241 and its kin (including Senator Garn's amendment to the proposed Trade Bill) are ruining my company's business. The uncertainty that the new Toshiba products might not be

available has resulted in substantial sales decline. Our customers fear that the expansion capability which represented a key benefit in doing business with us will not in fact exist because the needed units will be prohibited from being sold. The problems extend beyond the telephone systems themselves; indeed, one of our major customers, a medical group, uses Toshiba CT Scanners because it considers them the best and has expressed to us the fear that this legislation will adversely affect not only their telecommunications equipment but their providing health care to patients. Our employees fear lay offs. (I have attached as an exhibit a copy of a letter by my lead service technician sent to his Congressman; it reflects the plight our employees face.)

These detrimental consequences resulted from the mere proposal of this legislation and the ensuing television spectacle of Congressmen smashing Toshiba equipment on Capitol Hill. If the legislation becomes law, things will get worse. My entire business will need to be built from the beginning, my employees will need to be retrained or laid off, and I and my partners will have to start over again. Our customers will also have lost.

Why should my employees, our company and our customers suffer? We had no role in the Kongsberg/Toshiba Machine sales. Our supplier, Toshiba America, a New York company that has its Telecommunication Systems Division in California, had nothing to do with what Kongsberg or Toshiba Machine did. Indeed, Toshiba Machine, a publicly held Japanese company, has nothing to do with Toshiba telecommunications equipment.

Accepting what I read in the press and elsewhere that employees of Toshiba Machine Company Ltd. in Japan engaged in and then covered up illegal activities violative of Japanese law, should not the punishment be directed at them? Enough examples of illegality and cover ups can be found in history to show that the proper American response is investigation, prosecution of the persons involved and strengthening controls to prevent recurrences. Why isn't that the right approach here?

Having studied Law, the proposed legislation also seems to me to be both a bill of attainder and an ex post facto law. Not only is such legislation bad policy, it runs contrary to our Constitutional principles, that punitive legislation cannot be passed because punishing select persons is a judicial function.

With all due respect to the Senators and Congressmen who sponsored this kind of legislation, while their hearts are in the right place, the cure they prescribe will instead hurt the innocent. Because in this modern world we depend on one another, substantial harm to honest, hardworking American businessmen and employees will result even if there were no international trade repercussions. I respectfully submit that this kind of legislation will not benefit the United States, that it is against American interests and that it should not be passed.

Bruce Peale

Chairman GIBBONS. Let me ask you a question. What do you sell and service?

Mr. REALE. Business telephone systems.

Chairman GIBBONS. Business telephone systems.

And it carries the Toshiba name rather than Advanced Telecomm, or does it carry the Advanced Telecomm name?

Mr. REALE. It has the name Toshiba on it.

Chairman GIBBONS. It has the name Toshiba on it.

So you in effect are a designer and installer and a maintenance person for that kind of non-public telephone system?

Mr. REALE. Exactly. I compete with AT&T or your local telephone company.

Chairman GIBBONS. I'm sorry. You do?

Mr. REALE. My company competes with AT&T or the local telephone company in terms of providing equipment.

Chairman GIBBONS. I would assume your system goes entirely within one business or one interrelated set of businesses, is that correct?

Mr. REALE. No. We can install our system anywhere. The manufacture of the systems is regulated by the FCC. So all manufacturers must comply to certain regulations so that all systems will work anywhere within the United States.

Toshiba is one manufacturer of systems.

Chairman GIBBONS. You're not a central switching system?

Mr. REALE. No. Correct. Equipment only.

Chairman GIBBONS. Equipment only. All right.

How long would it take you to find another supplier?

Mr. REALE. There are many suppliers in the market today. What you're asking me to do is, in a sense, starting my business over. I've got an established customer base, all of whom have the same product line, Toshiba.

If I pick up the XYZ product line tomorrow and I go out and try to sell it, they're going to say, okay, give us some references. I've got 1,100 references here. Well, how many of those have the XYZ telephone? None, none of them do.

You are asking me to completely retrain all of my technicians. That involves sending people to school. While they are at school, they are not installing systems so I don't make money. I have to pay for their expenses. You're asking me to retrain all my salespeople.

In effect, my company would have to start over.

Chairman GIBBONS. I'm not asking you to do anything. I'm just asking you a question. I have a great deal of sympathy for your position.

Mr. REALE. Thank you, sir. I appreciate that.

Chairman GIBBONS. You are already selling a product that has probably received enough adverse publicity to last a lifetime.

Mr. REALE. That is true.

Chairman GIBBONS. And I feel sorry for you for having been caught in that.

I'm trying to find some way we can properly reprimand Toshiba for what was apparently a pretty grievous—I wouldn't even call it an error, because it was deliberate—a grievous operation. And at the same time not harm people like you.

I don't know how to do it frankly. But we'll try to take enough testimony to see if there is some way out of this puzzle, because I have a great deal of sympathy for someone in business like you. I've never been caught exactly in a position like you have, but I have seen others caught. I have in my private law practice had others caught and seen—that kind of calamity. And it is a calamity. And I want to try to find some way to extricate the innocent American citizen from what is going to grow and be a greater problem I'm afraid than we're able to handle here.

I can't tell you the amount of resentment there is in this Congress over Japanese business practices. There was not this much concern about Japan prior to World War II as there is about Japanese business practices today, and I've lived in both eras.

And let me say I have probably helped the Japanese more than other Member of Congress. But, you know, they stretch you past a capacity to respond. They've had a reputation with Americans for 20 years of selling anything to anybody regardless of the security consequences of it. American businessmen from around the world from Buenos Aires to Seoul, Korea, have told me over and over again we're getting beaten because the Japanese have no restraint on what they'll sell. They'll sell anything to anybody. And we have to go through these COCOM clearances.

We've had endless stories of dumping and subsidies and all kind of unfair trade practices, and we plead with the Japanese. Frankly it falls on deaf ears.

So you're caught. I feel real sorry for you. I want to help you. But I want to tell you where you stand.

Mr. REALE. I understand.

Chairman GIBBONS. And if I were you, I'd go out and start looking for another supplier tonight because I think you're going to get clobbered.

The resentment is strong. Before World War II, the concern about the Japanese was great. It's greater today than it was then, and it's sad, and I don't understand the cause of it except that it's a frustration that never ends.

So you've heard it from me—the guy, who if you took a vote in Congress as to who has protected Japan more in the last 20 years, I'd probably get elected to that position. But, you can't go on, you can't go on. I'm just trying to tell you what I think is going to happen. They are going to run all over me.

Mr. REALE. What about legislation which would be prospective in effect, lay out the ground rules and tell them?

Chairman GIBBONS. They've known the ground rules.

Mr. REALE. But no one has ever talked about this type of ground rule.

Chairman GIBBONS. The heck they haven't. Every American businessman that competes with the Japanese in the world market has known that they are famous, infamous, for paying no attention to any of the COCOM rules.

American manufacturers will tell you, when you ask them what's wrong with American sales, why can't we sell products, they say you've got to get a clearance for an American product. If you're Japanese, you get an automatic clearance. And I hate to say

it but the same thing goes for the West Germans too. So they've all known the rules.

I feel real sorry for you individually, and you all collectively at the table. But it looks like to me that the boom is going to be lowered on Toshiba, and Toshiba is going to be the company which has to pay for the Japanese failure to control their insatiable desire to sell everything to everybody, with no regard as to what the international rules are.

I do not mean to preach to you, but if I were you, I would go out and find another supplier tonight.

Mr. CHRISTOPHER. Mr. Chairman, our understanding from the amendment on the Senate side is it already provides for certain exemptions. The way we read it, it provides for exemptions for contracts written prior to May 1, 1987. It provides for exemptions for spare parts and components needed for American production.

Chairman GIBBONS. That does not help Mr. Reale, though. It does not help you. You have not got a contract. You have got a business relationship, but you have no contract.

Mr. CHRISTOPHER. That is exactly correct.

Chairman GIBBONS. And I can understand that. You did not feel that you needed a contract. You could write a letter and send a letter of credit, and you could get your product. So you did not feel that you needed one. I do not think that that would classify as a contract under the way we normally classify contracts. That is an open account type of arrangement.

Mr. CHRISTOPHER. I am not sure either, but that is why I am here, basically.

Chairman GIBBONS. Well, I understand that.

Mr. CHRISTOPHER. But the point that I was making, I think there should be a way to protect the innocent American employees that are employed here in this country.

Chairman GIBBONS. I agree with you.

Mr. CHRISTOPHER. I am sure that in the wisdom of the Congress, Toshiba could be punished, if you wish; however, the American employees of all these firms that have worked so hard over the years could be protected by actually carving out that portion of the American business.

Chairman GIBBONS. I would like to do that, but I am not sure I can make that fly.

You have heard the panel up here today. You have heard the testimony. You have had to sit here and listen to all of it. I apologize for keeping you so long.

Mr. CHRISTOPHER. We heard it.

Chairman GIBBONS. Well, Mr. Reale, we would be glad to hear more from you, but we want to go to Compu-Phone, Inc., Ms. Spain.

STATEMENT OF DAWN SPAIN, PRESIDENT AND OWNER, COMPU-PHONE, INC.

Ms. SPAIN. Thank you. I also appreciate being invited here today. Like Mr. Reale, I own and am the President of Compu-Phone, Inc., an independent telephone interconnect company. I do exactly the same thing that—

Chairman GIBBONS. Where do you operate from?

Ms. SPAIN. I am located right here in Washington, DC.

Chairman GIBBONS. Oh, you are.

Ms. SPAIN. I am not only a good American, but I am a Washingtonian. I have been here all my life.

As an American businesswoman, I have worked very long and very hard for many years in very definitely what I would fairly say is a man's world. I started my own company a good 10 years ago in a very male-dominated industry to build my own company.

It has not been an easy time for myself; it has not been an easy time for my employees, who have been very loyal. I think they have had to put up with a lot of problems that maybe they would not have had if they maybe worked for a company that was not a hundred percent woman-owned.

Now, Congress has proposed legislation which has already set my company back and which will, if enacted, undo most, if not everything, that I have struggled to do in the last ten years.

You were talking to me as well as to Mr. Reale when you told him to go out and take on another product. I am not sure after listening to everything that has been said here today whether we are dealing against Japan or whether we are dealing with Toshiba. I would be very hard-pressed to go find a phone system that was not made with parts from Japan, because the majority of the phone systems, whether they have it on their label or not, are constructed of components from Japan.

My own reason for choosing Toshiba, which is something that I did a great deal of research on, was because of the quality of their product. They have established one of the best reputations in the industry as far as reliability of product. They also have been very good to me as a dealer.

I truly do not believe that Congress realizes how bad this proposed ban on Toshiba's products is going to affect the American businessman. I think Congress should rethink what it has done and proposes to do and not pass this legislation.

Let me explain what effect this legislation has had and will have on me and my employees. To begin with, Compu-Phone has 25 full-time employees. My livelihood, and my employees' livelihood depends on this. I am veering away a little bit from my statement that I turned in to you, but I would like to address your comments where you were talking about continuing to supply parts, I have a base of approximately 800 customers. Even if Toshiba continues to supply parts—I am not a Congressman, I am not a lawyer; I am just a businesswoman. But I can tell you very realistically: if I only stay in business to supply parts, I will be out of business within a couple months. I cannot stay in business only just servicing customers and supplying parts. I have to continue to also sell new systems and continue to install new equipment.

The same thing is going to happen across the country. You can bring all the parts you want in, but your Toshiba dealers cannot continue to survive by only doing that.

As it has been expressed by Mr. Reale, our customers are also concerned. We have received many phone calls from our existing customers. They purchased their equipment based on the reliability of equipment and the fact that it will last. It is also one of the few systems that was designed to grow. This is something that will defi-

nitely affect the people that have bought systems and have the need to upgrade their systems as their business grows.

Incidentally, we have a few Congressmen that we have sold systems to. We do a lot of large residential homes in the Washington area.

I feel that Compu-Phone as a company did nothing wrong, and I do not feel that Toshiba America, our supplier, did anything wrong.

[The statement of Ms. Spain follows:]

Statement of

DAWN SPAIN,

Compu-Phone, Inc.,
Cabin John, MarylandBefore the
Ways and Means Committee
U.S. House of Representatives

Subcommittee on Trade

July 14, 1987
Washington, D. C.

I own and am the President of Compu-Phone, Inc., an independent telephone interconnect company. As an American businesswoman I have worked long and hard, in what can fairly be called a man's world, to build my company. Now, Congress has proposed legislation which has already set my company back and which will if enacted undo most if not all of my years of effort and the efforts of my employees.

I truly believe that if Congress realized how bad the proposed ban on Toshiba products (H.R. 2241 and similar bills in the House of Representatives and the Senate) have made things for independent, American businesses such as mine, Congress would rethink what it has done and proposes to do and would not pass that legislation. Let me explain what effect this legislation has had and will have on me and my employees.

To begin with, Compu-Phone employs 25 full time employees. I am convinced that we provide the best equipment and the best service at the best price. My and my employees' livelihoods depend on our abilities as American workers to fulfill the needs of our customers and we decided to use exclusively Toshiba-brand telecommunications products in so doing. We selected Toshiba equipment because it is the best and that is what our customers want.

With the proposed ban on Toshiba products of all kinds, our customers fear that they will lose the ability to expand the telephone systems they bought from us, to have those systems upgraded as their businesses grow, and to have the service and support which we pride ourselves in providing. Not only has the existence of these legislative proposals worried our customers, it has already cost my company substantial sales. If Congress were actually to ban these products from being brought into the United States, I would have to start my business all over again. Not only would I lose, but so would my customers and, I dearly fear, so would my employees.

But we did nothing wrong. Nor for that matter did Toshiba America, our supplier. Nor did anyone involved in the manufacture of Toshiba telecommunications equipment. Nor insofar as I have been able to ascertain did anyone at Toshiba Corporation.

Now, I will be the first to say that anyone, who did the kinds of things that employees of the companies called Kongsberg and Toshiba Machine are accused of having done, did wrong and should be punished. But, having raised eight children, I know that you do not destroy a family or cast out all your children just because one of them did something wrong, no matter how wrong.

Moreover, as a native Washingtonian, I have lived in the Capital area long enough to realize that there are far too many problems with people in our own government who have done things that were wrong, including Congressmen from time to time. But that does not mean the whole Government is guilty and should be put out of commission. Nor does it mean that we should shut down Congress as punishment because of the misdeeds of one of its members. Certainly, I would not fire my whole staff if I found that I had one or some bad employees. No competent businessperson would do so either.

Common sense tells us why such drastic action would be senseless and counterproductive. You cannot operate on the theory of guilt by association. While, unfortunately, there are people who make serious mistakes and people who are bad, there are far more people who are good. And a government, like a family, like a company, consists of people who depend on each other.

Punishing those who were not personally guilty ends up hurting others who were innocent and it hurts them needlessly. That is precisely what Congress will be doing if it bans Toshiba products because some employees at Toshiba Machine, a company which itself is publicly owned in Japan, violated Japanese law and thereby harmed the national interests of both Japan and the United States.

Somehow, the Congressmen who proposed this legislation and the ones who smashed Toshiba radios on Capitol Hill forgot this. I am certain they meant well

and perhaps were swayed by emotions of a given moment. But laws should be passed only after careful thought. And, after carefully considering these proposed laws and the inevitable adverse consequences they will have on American businesses such as mine, reason dictates that such laws as these not be passed.

As for dealing with the problem that gave rise to these legislative bills, other approaches must exist. For example, one could employ the normal response in this country to misconduct in government or business -- investigate, prosecute criminally the individuals who are determined to have violated the laws involved and strengthen controls to preclude a recurrence as much as possible.

Dawn Spain

Chairman GIBBONS. Well, apparently, Toshiba of America is exempt under the Senate amendments, as I understand it. Is that correct? Toshiba of America. The problem we have got is that we have got a trade bill that is being amended by the Senate, and we are going to have to meet with the Senate this year some time, probably in September, and iron out the differences between the House bill and the Senate bill.

The Senate is going to insist on the anti-Toshiba amendments and fight like tigers over it. We have got to find some way of seeing if we cannot get you up for some sort of consideration in that House-Senate Conference.

We are also, as I have pointed out earlier, all fed up past our necks on Japanese business practices. It looks like Toshiba is going to catch it. I am just making a prediction. I am not making a threat. I am just making a prediction. It looks like Toshiba is going to catch it. They certainly asked for it. I have never heard of any conduct that was so gross, if the testimony here is correct, of sitting down and working out with the Russians a very delicate machining problem and then agreeing to service it for five years, and misnaming it, misnumbering it and everything else in order to not only deceive us but deceive their own government.

It looks like to me that Toshiba is going to catch it, and what I want to do is to try to save as many Americans out of this mess as I can.

Ms. SPAIN. It's obvious that there's been a very serious breach of security that happened, and I certainly will be the first one to say that this kind of thing is wrong. I think that Toshiba Machine should be reprimanded and that everything should be done in order to try to overcome the problem it created.

But I feel this way, having raised eight children, I know that you do not destroy a whole family or cast out all your children because you have one child that goes bad and you have a problem with him. And I feel that this is what's happening here with Toshiba. I feel that Congress is blaming the whole Toshiba company and because of one subsidiary's employees. Moreover, being a native Washingtonian, I've lived in the Capitol area long enough to realize there are far too many problems with people from our own government who have done things that were wrong, including Congressmen from time to time. Despite that, we've never gone out and abolished Congress because of those Congressmen, or determined that our whole Government is guilty.

Chairman GIBBONS. I understand.

Ms. SPAIN. I've seen a lot of it happen. I've been here a lot of years. I don't want to give my age away but, I was here at the end of World War II myself, and I am picking up a lot of anti-Japanese racism. That is noted here in an article in the Orange County Register. This disturbs me. I mean I'm a good American, and it disturbs me a great deal to hear some of the things that I've heard here today.

Chairman GIBBONS. How many people do you employ, Ms. Spain?

Ms. SPAIN. I employ 25.

Chairman GIBBONS. And about how many customers do you have?

Ms. SPAIN. We have approximately 800.

Chairman GIBBONS. How long have you been in this business?

Ms. SPAIN. I started the end of 1980 and the first part of 1981.

Chairman GIBBONS. Do you have any other source of income other than this business?

Ms. SPAIN. No. I own 100 percent of the company and have no other major source of income.

Chairman GIBBONS. Are there other questions for Ms. Spain?

Let's go to Apple Computer, Inc.

**STATEMENT OF JAMES A.R. JOHNSON, DIRECTOR OF
GOVERNMENT AFFAIRS, APPLE COMPUTER, INC.**

Mr. JOHNSON. Thank you, Mr. Chairman.

I'm Jim Johnson from Apple. This year marks the 10th anniversary of Apple Computer.

Chairman GIBBONS. You've got a fine little machine.

Mr. JOHNSON. Thank you very much.

What we have been able to sell and have been successful in selling is really the genius of the people who work for the company. We have slightly less than 6,000 employees worldwide.

We really did begin in a garage in the Silicon Valley, and we have now achieved a \$2.4 billion annual sales. As an American company that competes in about 60 countries around the world, none of which are Eastern bloc countries or the Soviet Union, what we try to sell is quality and intellectual property which we then implement in the computers and the peripherals and the other material that we manufacture.

As a new company, just a decade ago, desiring to grow, we listened to what the leaders of our Nation had to say here in Washington about being competitive internationally and trying to restore the balance of trade and foster American competitiveness in international trade.

We've been described in the business press and by government officials as a prime example of how the American free enterprise system can really work. This is the way that our system can work. We have proven that. We've never sought Government assistance, we've never sought protection from foreign competition. We just believe that we can help restore the Nation's balance of trade by making the best quality computer and beating our competition at their own game, machine by machine and country by country.

We are willing to take the risks of competing as an American company.

As we sought to build quality into our computers and compete internationally and domestically against foreign products, we found that we had to look all over the world to find the best quality in components at competitive prices. Among our top 20 vendors, those who supply components, we buy from vendors in nine different countries, including the United States.

In the process of seeking superior quality for both component parts built into the computer, as well as peripheral equipment, in 1981, we began to enter into a working relationship with one of the 37 subsidiaries of Toshiba Corp., one that is not an offending subsidiary, one that is owned by Toshiba with 50.4 percent majority ownership of the stock.

What this subsidiary does for us is manufacture original equipment according to our design, our technology, our intellectual property, and according to our specific engineering guidance. They are the only manufacturer of that product for us, and we are their only customer. And our name goes on the product when it's originally manufactured. This is not an off-the-shelf item which we could just find from another vendor or supplier. The products are made with technical elements which have helped us become competitive in the worldwide marketplace.

We require of all of our suppliers, whether they are American or anyone else, that they perform with the highest level of technical flexibility, with the highest performance in production quality, and with the most cost-effective state of the art manufacturing processes, all according to our design and our engineering. If it were not that case, we could not compete against the vast array of foreign computer manufacturers, both in this country and elsewhere.

It is Apple's consistent corporate policy, it always has been and always will be to seek other American manufacturers and suppliers in developing components for our products. Our McIntosh computer has the highest percentage of American components of any in the market, and we intend to keep that record.

If this legislation bans all products of Toshiba and its subsidiaries, Apple Computer, and a lot of other American companies who purchase components from Toshiba subsidiaries, and who are innocent bystanders, would suffer significantly in our efforts to remain competitive worldwide.

Now, the obvious question that you've asked of other witnesses, why don't you find another supplier. Our manufacturing and engineering people tell me that it would take a minimum of two years to qualify another vendor and bring them to the point of technical compatibility that we now have with our subsidiary supplier of Toshiba.

This kind of cooperative business relationship simply cannot be grown overnight. The cost of additional engineering and retooling and development of manufacturing processes, materials, expertise, quality control, and all of the rest of that would be staggering.

Now, we certainly agree with the intent of this legislation to send a very strong signal to the companies and the nations that are involved. And we see that your intent is to strengthen the enforcement of COCOM in some way, and we would support that as an American company and as a group of nearly 6,000 American citizens.

We sense that while there is this resolve in the Congress to punish the offending companies, there is also a resolve not to injure innocent American businesses, and we appreciate very much your concern in that matter.

The press has reported that only 7 percent of Toshiba's worldwide revenue of \$20 to \$25 billion comes from within the United States. And it is, therefore, very difficult for you to impose severe economic sanctions, severe enough to reach them with the impact that you want. And as has been stated before, the hitting of Toshiba through trade sanctions will involve hurting American businesses as well.

As an alternative, I'd like to just emphasize for you some of the language that's in the Senate bill. It's also a suggestion that Congressman Pete Stark, who's a member of the full Committee, suggested just earlier this day as we were talking with his staff, and this idea has merit and we would certainly pass it on. And that is that instead of trying to bankrupt Toshiba and all of its subsidiaries around the world, let's make them pay for the costs of new research and development necessary to regain America's lead in military technology over the Soviets.

What was lost to the Soviets through the devastating actions of Toshiba Machinery and Kongsberg of Norway was the result of technological research. It severely altered the balance of military power at this point in time, we've been put in jeopardy by it. But we and the Western Alliance are not bankrupt of new ideas in technology.

Our own company is an example of how you can compete and move and grow because of good ideas by people. We have the will in the West and the capacity and human creativity to recapture our technological lead over the Soviets.

Surely, the governments of Japan and Norway and the two companies share in a concern for the protection of the freedom of the Western World. They have benefitted from the shield of protection which the United States defense establishment has given. And it's appropriate that they should reimburse the U.S. Government for the costs of the research needed to once again overtake the Soviets technologically.

I submit that idea to you and suggest that talking with Mr. Stark and his staff would help fulfill some of the details of that.

In addition to that, we do support some of the elements of the Senate legislation and have some suggestions which are in my testimony as to some clarifying language we think would, by building upon the Senate legislation, would accommodate our concerns and the concerns I think of others on the panel in terms of understanding what a contract or business relationship is, and how we can live within that, and also understanding those instances where the subsidiaries of Toshiba are the sole suppliers, and where there is no other place to go.

And so I would submit those ideas for your consideration.

Thank you very much.

[The statement of Mr. Johnson follows:]

STATEMENT OF

James A. R. Johnson
Director of Government Affairs
Apple Computer Inc.

Mr. Chairman, Members of the Committee:

Thank you for this opportunity to discuss with you the impact of this pending legislation on Apple Computer, and similar American companies.

Apple is now celebrating its tenth anniversary. We have nearly 6000 employees worldwide, and have grown literally from the garage in the Silicon Valley to a company with about \$2.4 billion in sales. We are still one of the smaller personal desktop computer manufacturers doing business in this country.

Our success as an American manufacturer of computers is due to the genius of our people. Intellectual property is what we create, and implement. Our competitive edge in this country, and in about 80 other countries in the world, is due to our creation of new kinds of computer technology which are unusually user friendly. We have been so successful in such a short time because we lead with quality.

Now these factors of our management practices and engineering commitment are especially relevant to the legislation before you. As a new American company, desiring to grow, we listened to what our nation's leadership was saying here in Washington. We sought out world-wide markets. We sought to set the highest standards of quality so that we could preserve American competitiveness in international trade.

Apple has been described in the business press and by government officials as a prime example of how the American free enterprise system can really work. From zero to \$2.4 billion in ten years. That is the way our system can work.

Apple has never sought government assistance. We have never sought protection from foreign competition. We just believe that we can help restore this nation's balance of trade by making the best quality, most ingenious computers, and beating our competition at their own game around the world, machine by machine, country by country. We are always willing to shoulder our part of the burden of corporate citizenship. We are willing to take the risks of competing as an American company.

As we sought to build the highest quality into our computers so that we could compete internationally and domestically against foreign imports, we found that we had to look all over the world for the best quality in components at competitive prices. Among our top twenty vendors are companies from nine different countries, including the United States.

In that process of seeking superior quality for both components built into the basic computer, and for peripheral equipment, Apple, in about 1981, began to enter into a working relationship with one of the 37 subsidiaries of Toshiba Corporation which has been clearly identified as not an offending subsidiary.

What this subsidiary does is manufacture according to our American design and under our specific engineering guidance. The products are not off-the-shelf items which we could get just as easily from another vendor or supplier. The products are made

specifically for us and relate critically to the future of our business. . These products are made with technical elements which are better than all other manufacturers in the marketplace.

Apple's corporate policy has been and will always be to work with other American manufacturers and suppliers in developing components for our products. Our Macintosh computers have the highest percentage of American components of any on the market. And we intend to keep improving that record.

We require of our suppliers and vendors the highest level of technological flexibility, the highest performance in production quality and the most cost-effective, state-of-the art manufacturing processes to help us establish a foothold in the worldwide market. They must be willing to match research and development efforts with our innovative ideas to produce superior products. The business relationship which we have with our international suppliers, including the Toshiba subsidiary have given Apple, as an American company, the competitive edge in the world computer market.

If this legislation bans all products of Toshiba and its subsidiaries Apple Computer and all of the other American companies who also purchase components from Toshiba subsidiaries, who are innocent bystanders, would suffer significantly in the their efforts to remain competitive world wide.

The obvious question is "Why don't you find another company to supply parts and components?" Our manufacturing and engineering people tell me that it would take a minimum of two years to qualify another vendor and bring them to the point of technological compatibility. These kind of cooperative business relationships cannot be grown overnight. The costs of additional

engineering time, re-tooling, development of manufacturing tools, production expertise, materials expertise and quality control procedures with a new company could be devastating.

We certainly strongly agree with the intent of this legislation to send a very strong signal to companies, like Toshiba Machine and Kongsberg, who violate the COCOM regulations. Surely, your intent here is to strengthen the enforcement of COCOM by making this issue of major importance to Japan and Norway and all other parties to the agreement.

We sense that while there is this resolve in the Congress to punish the offending companies and nations involved, there is also a resolve not to injure innocent American business.

Since only 7 percent of Toshiba Corporation's world wide revenue of \$23 billion comes from within the United States market it is very difficult for you to impose a sufficiently severe economic sanction to reach them with the impact which you want. And, as we have stated, by hitting Toshiba through trade sanctions you will be hurting American businesses and consumers.

As an alternative I would like to pass along to you an idea which Congressman Pete Stark suggested. This idea has merit and should be considered carefully by the Congress. Instead of trying to bankrupt Toshiba and all of its subsidiaries around the world, let's make them pay for the costs of new research and development necessary to regain America's lead in military technology over the Soviets.

What was lost to the Soviets through the devastating actions of Toshiba Machine, and Kongsberg of Norway was the result of technological research. It altered the balance of military power at this point in time, to be sure. We have been put into jeopardy. But we in the western alliance are not bankrupt of new ideas. We

have the will and the capacity in human creativity to recapture our technological lead over the Soviets.

Surely, the Governments of Japan and Norway, and the Toshiba and Kongsberg companies share with us the profound concern for protection of the freedom of the western world. Since they have benefited from the protective shield of the United States defense establishment for so many years; the very shield which they have now put in jeopardy, it is entirely appropriate that they should reimburse the U. S. Government for the full costs of the research needed to once again overtake the Soviets technologically. Such payments of restitution should be negotiated and paid on a government to government basis.

Mr. Chairman, I also want to present to you some additional thoughts based on the Senate version (Section 3. Mandatory Sanctions , para (3) (B)). I would like to submit for your consideration some language intended to strengthen what the Senate wanted to do. These are principles which could be included in your version of the legislation as well. (*Our suggested language is in italics.*)

Mandatory sanctions need not apply- - -

(1) to imports shipped under contracts signed before May 1, 1987, *including the exercise of options for production quantities or technical modifications to satisfy U. S. owned company operational requirements and American job security.*

(2) to imports shipped under contracts signed prior to the date of congressional notification of sanctions, in the case of future violations.

(3) to spare parts, component parts, *sub-assemblies*, and *completed products manufactured specifically under sole source agreements and containing substantial U. S. design content* essential to U. S. production, but not finished *imported consumer* products *sold generally by the offending company*.

Senate language which should be included in any House version includes: (4) Mandatory sanctions need not apply to imports shipped under contracts signed prior to the date of congressional notification of sanctions.

(5) Mandatory sanctions need not apply to routine servicing and maintenance of products already supplied; or to information and technology.

Chairman GIBBONS. Thank you, Mr. Johnson.

Let me ask you, what is the name of the subsidiary that you deal with?

Mr. JOHNSON. It's Tokyo Electric Co.

Chairman GIBBONS. Tokyo Electric Co., yes.

And Ms. Spain and Mr. Reale, you deal with Toshiba America?

Mr. REALE. Correct.

Chairman GIBBONS. And you deal with—

Mr. CHRISTOPHER. The parent corporation, Toshiba Corp.

Chairman GIBBONS. So you deal directly with Toshiba Corp.

Mr. CHRISTOPHER. Yes.

Chairman GIBBONS. Mr. Johnson, as I listened to your testimony, as I understand it, you own the patents and the copyrights on what Toshiba is manufacturing for you?

Mr. JOHNSON. Exactly.

Chairman GIBBONS. And your testimony is that your technical people say it would take 2 years to transfer supplies?

Mr. JOHNSON. Yes.

Chairman GIBBONS. And the product that's manufactured has your name on it?

Mr. JOHNSON. Yes, it does.

Chairman GIBBONS. But it is labeled "Made in Japan" as the law requires.

All right. Let's go to Computer and Business Equipment Manufacturers Association, Computer and Communications Industry Association, Mr. Tasker and Mr. Black.

STATEMENT OF JOSEPH TASKER, JR., COUNSEL, AND EDWARD J. BLACK, VICE PRESIDENT, COMPUTER AND BUSINESS EQUIPMENT MANUFACTURERS ASSOCIATION AND COMPUTER AND COMMUNICATIONS INDUSTRY ASSOCIATION

Mr. TASKER. Thank you, Mr. Chairman.

My prepared remarks are submitted for the record. They say good afternoon, I'll say good evening.

Chairman GIBBONS. Unfortunately, you're right.

Mr. TASKER. Members of CBEMA and CCIA, Mr. Chairman, share the concern expressed here today over the sale of sophisticated machine tool equipment to the Soviet Union by Kongsberg and a subsidiary of Toshiba.

Our companies devote substantial resources and effort in complying with COCOM export control regulations, and we expect companies in other COCOM countries to do likewise. We are particularly outraged by intentional violations as appears to have been the case here.

We would like to return, Mr. Chairman, to some of the themes that have been expressed earlier this afternoon at these hearings. We want to consider both the opportunities and the risks that this issue presents. The opportunity to use this regrettable incident to strengthen the COCOM system, and the risk that the imposition of sanctions in the form of an import ban can do substantial economic harm to the American information technology industry.

Here is an opportunity. The President should be directed, in our view, to use this outrageous incident to improve the COCOM

system. This goes farther than some of the suggestions made earlier this afternoon.

The sale by Toshiba and Kongsberg was beyond the reach of the United States export control law. They are not U.S. companies, and the technology was not reexported United States technology. This underscores the point that COCOM is only as strong as the national laws on which it is based. And this is the opportunity to strengthen those laws.

Now, Toshiba and Kongsberg do business in the United States so there is an opportunity to take action against them. But if the United States pursues unilateral sanctions against Toshiba and Kongsberg first, in our judgment there is a very real risk that we will be no better off in the United States if a technology diversion takes place again in the future.

Applying unilateral sanctions first runs several risks. We think the incentive of COCOM members to negotiate improvements in their national laws is reduced, and we think that the COCOM system itself may be further weakened if other member states come to believe that the United States will in any event punish violation of their national laws, at least to the extent that it can reach them.

That's part of the problem here. There are companies, unlike Toshiba and Kongsberg, that do not do much business in the United States, but have technology that COCOM should keep out of the hands of the Soviets. The United States cannot go it alone; it must depend on COCOM.

If unilateral sanctions must be applied, then they should be used constructively. Our recommendation is that the President should be directed to negotiate improvements in COCOM and authorize him to impose appropriate unilateral sanctions if those negotiations fail.

This is consistent with the approach to multilateral export control violations that the Congress took in 1985 with the amendments that were discussed earlier, Section 233 of the Tariff Act.

We also support authorizing the President to seek compensation proportionate to the increased defense expenditures imposed on the United States by this technology diversion. We do urge, though, that compensation be sought on a country-to-country basis rather than directly against the foreign companies. Our concern here is that seeking compensation directly from the foreign companies creates a bad precedent in the form of the possibility of mirror legislation or mirror action by foreign countries.

We're concerned that the next time a foreign government could seek compensation directly from a U.S. company for reasons that very well might not be as good as the reasons the United States has to seek compensation in this case.

Again, the threat of unilateral sanctions should be available to the President to use as a stick if the countries involved will not accept the carrot of compensation. Unilateral sanctions should be a last resort, not a first resort.

In sum, we urge that the President have an opportunity to treat this as a multilateral issue before applying unilateral sanctions.

Now, I also want to address the risks that should be avoided if the President does have to impose unilateral sanctions.

First, they should be limited to the companies that were directly involved in the technology diversion, Kongsberg and a subsidiary called Toshiba Machine. There is a good reason to do this.

Under United States law, we do not generally charge a parent corporation with the conduct of the subsidiary without some evidence that the parent was directing or at least had some knowledge of the subsidiary's action. It's important to find out those facts, Mr. Chairman. But as we sit here today, it seems that there was no knowledge or direction certainly.

Congress should consider taking a consistent approach. Again our concern is with mirror legislation and mirror action by foreign countries against foreign subsidiaries of United States companies.

Second, if import sanctions covering the parent firms must be imposed, we too, urge action to the House be consistent with the approach taken in the Senate. In other words, exemptions, such as an exemption for component parts, and other exemptions that would address other issues addressed in this panel should be carefully crafted to avoid harm to innocent American business.

This concern was voiced in the floor debates on the sanctions measure that passed the Senate and is reflected in its language. Why are certain exemptions so important?

The United States information technology industry is driven by the competitive need and the desire to provide its customers with the best and most advanced available technology.

You've heard from Apple Computer Corporation that it does a very successful job at that. And I think every company in this industry tries to do its best.

The reality is that Toshiba and, to my understanding, in some cases, Kongsberg, are important suppliers of critical componentry to many companies in this industry. Componentry that in many instances is simply not available from any other commercial source.

The United States has an interest in preserving the world leadership position of its high technology industry, and that should be taken into account in imposing any sanctions in this case.

We too have some concrete suggestions to offer for clarification of the exemptions set forth in the Senate provision if that is the vehicle that winds up being used to treat this issue. They are submitted in my prepared remarks. We can certainly talk about them if you'd like, but the main thing I would point out here is that we want to avoid creating an import licensing system that would require United States companies to get the equivalent of a validated export license, a validated import license for every shipment of product coming in under some exemption.

We know from experience with other import and export restrictions how difficult it can be to get case-by-case approval.

In closing, Mr. Chairman, I want to express our appreciation to the fact that you are holding these hearings today because we think this committee, along with the Foreign Affairs Committee, is the proper forum for consideration of this issue.

The Toshiba/Kongsberg issue should be dealt with, in our judgment, in the omnibus trade legislation, not in separate legislation or in amendments that are outside the jurisdiction of these committees.

Our member companies strongly supported the inclusion of export control amendments in omnibus trade legislation and appreciate the work of this committee to accomplish that.

We believe that the Toshiba/Kongsberg matter is best dealt with in the context of these other efforts to focus and strengthen the export control system.

Mr. Chairman, I thank you for your time at this late hour and we would be glad to answer any questions you may have.

[The statement of Mr. Tasker and Mr. Black follows:]

STATEMENT OF JOSEPH TASKER, JR., AND EDWARD J. BLACK,
COMPUTER & BUSINESS EQUIPMENT MANUFACTURERS ASSOCIATION
AND COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION

Good afternoon Mr. Chairman. My name is Joseph Tasker, and I am a member of the firm of Bishop, Cook, Purcell & Reynolds in Washington, D.C. I appear here today with Edward J. Black on behalf of CBEMA, the Computer and Business Equipment Manufacturers Association and CCIA, the Computer & Communications Industry Association. Our associations welcome this opportunity to discuss with you and members of this Subcommittee our views on various proposals now before the Congress, to impose sanctions on the Toshiba Corporation and Kongsberg Vappenfabrik Company arising out of the sale by Kongsberg and a Toshiba subsidiary of sophisticated machine tools and computer equipment to the Soviet Union.

CBEMA represents the leading American high technology companies in computers, business equipment and telecommunications. Its members had combined sales of more than \$185 billion in 1986, representing 4.3% of our nation's gross national product. They employ more than 1.2 million people in the United States.

CCIA is a national trade association comprised of manufacturers and providers of computer, information processing, and telecommunications-related products and services. Member companies provide large mainframes, mini and micro computers, semiconductors, peripheral equipment, software products, telecommunications equipment, systems, and services, office automation systems, and third-party leasing and maintenance services. Together, these companies generate annual industry-derived revenues in excess of \$80 billion and employ over 800,000 people.

In 1986, our industries had exports of \$17.120 billion and imports of \$14.936 billion, providing a trade surplus to the United States of \$2.184 billion.

Mr. Chairman, you do not need me here to tell you that this hearing today is considering a very important issue, indeed, an emotionally charged issue. A serious breach of the national security of the United States has taken place. Our industries in no way condone or support what has happened. That is not why we are appearing here today. All members of our associations are interested in protecting the allied defense against the military capability of the Soviet Bloc. The members of CBEMA and CCIA share the concerns expressed by the U.S. Government over the sale of sophisticated machine tool equipment to the Soviet Union by Toshiba and Kongsberg in violation of multilateral export control obligations. Our companies devote substantial resources and efforts to comply with both the letter and spirit of COCOM export restrictions, and we expect companies in other COCOM countries to do likewise. We are particularly outraged by intentional violations, as was apparently the case with Toshiba-Kongsberg.

We requested the opportunity to appear at these hearings today so that we might stand back and examine both the opportunities and the risks that this issue presents: The opportunity to use this incident to help strengthen the multilateral export control efforts by the COCOM countries, and the risk that imposition of sanctions in the form of an

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import ban can cause serious economic harm to the American information technology industry.

Let me turn first to the opportunity presented by this incident. COCOM, the "Coordinating Committee", is an informal association of countries, including the United States, other members of the NATO alliance, and Japan, that have agreed to take various steps to strengthen multilateral national security export controls. As recognized in section 2(7) of the amendment that passed the Senate June 30, "Recent revelations about the Soviet acquisition of advanced milling technology indicate that the COCOM system is only as strong as the national laws and enforcement on which it is based, . . ." This is underscored by the fact that the technology sold to the Soviets was sold by Japanese and Norwegian corporations, and the technology itself was not "United States" technology subject to U.S. export control laws. This matter was beyond the reach of the export control laws of the United States.

Out of this regrettable incident comes an opportunity for the Congress to urge, indeed direct, the President to strengthen the COCOM system. Costly as the diversion has been to U.S. national security, the United States can gain a considerable advantage if it uses the incident effectively to negotiate stronger, more focused export controls and enforcement in Japan, Norway, and other COCOM countries. As this Committee is well aware, CBEMA and CCIA companies have long favored a narrowing of the scope of COCOM controls so that greater attention and enforcement effort could be focused on foreign end users and technology that is of clear and significant military importance. The equipment sold by Toshiba-Kongsberg falls in that militarily significant category. This is the type of equipment on which the export control system should focus. The United States should take advantage of this opportunity to insist, for example, that foreign national security export controls include criminal penalties for willful violations and mechanisms for penalties proportional to the seriousness of the offense. In addition, laws must be enforced with sufficient personnel who are directed to carefully monitor and thoroughly audit the export activities of companies in their countries. U.S. industry has consistently supported such provisions in U.S. export control laws.

There are other reasons to pursue this matter, initially, on a multilateral basis with the intention of strengthening COCOM. There are companies in COCOM nations that do not do much business in the United States, but may deal in sophisticated technology that export controls in those nations should keep from the Soviet bloc. The United States simply cannot substitute its own enforcement for COCOM in all cases because it cannot impose effective sanctions on all potential violations of the export control laws of other countries. In other words, the United States does not have the option of going its own way; without the support and concurrence of all members of COCOM, the collective strategic embargo fails.

We are opposed to the imposition of unilateral import sanctions because of their troublesome precedent as a method for ensuring effective compliance and deterrence and protecting innocent commerce. However, if they are nonetheless imposed, they should be used constructively, and

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only as the "stick" that will be applied if the "carrot" of more effective foreign export control laws is not accepted and implemented by other COCOM nations. To apply unilateral import sanctions as a first resort, rather than as a last resort: (1) reduces the incentives of COCOM members to negotiate improvements in their respective national systems; (2) may build resentment over U.S. infringement upon foreign sovereignty; and (3) may weaken the COCOM system itself, if other COCOM members come to believe that the United States will punish violations of other national export control systems (when it can reach those responsible for the violations) in any event.

We realize that taking advantage of this opportunity to strengthen the multilateral COCOM system is not, in itself, sufficient to redress the apparent breach of U.S. national security that has taken place here. Thus, we support requiring the President to seek compensation proportionate to the increased defense expenditures imposed on the United States.

It is important to add, however, that if compensation must be sought, it should be a matter for negotiation between the United States and the foreign governments involved. We cannot support seeking compensation directly from the companies involved in the technology diversion. It is not too speculative to consider the risk of foreign governments' taking "mirror" action, for one reason or another -- and perhaps not as good a reason as is the case here -- to seek compensation directly from a United States company. That real risk can be avoided by treating the issue of compensation as a matter for government-to-government negotiation. Moreover, the export control effort is, of necessity, a multilateral one. Thus any sanctions against violators should be decided upon and imposed multilaterally -- by COCOM.

As in the case of negotiations to strengthen the COCOM system, the President should be given a reasonable period of time to negotiate compensation before considering application of the "stick" of unilateral sanctions.

The President, in this regard, should be given the opportunity to take into account the actions already taken by Japan and Norway before deciding what further sanctions, if any, are appropriate. In Japan, for example, considerable action has already been taken. After police raids on the office of the company that negotiated and made the export -- Toshiba Machine -- two Toshiba Machine executives, including the one who negotiated the deal, were arrested. The Washington Post reported as of June 20 that nine executives of Toshiba Machine had been arrested or indicted in Japan. In addition, Toshiba Machine has been ordered to suspend all its exports to 14 Communist countries for one year. This penalty may not be as "insignificant" as is sometimes thought; company sources have said it will result in losses of \$100 million to Toshiba Machine in the current fiscal year.

Now let me turn to consideration of the risks that should be avoided if the sanctions stick must be used. There is a reason first of all to consider limiting unilateral sanctions to the companies that appear to have been directly involved in the technology diversion: Kongsberg and

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the subsidiary of the Toshiba Corporation, Toshiba Machine Company, Inc. As a general rule under United States law, a parent corporation is not charged with the conduct of a subsidiary without some evidence that the parent corporation was directing, or at least had some knowledge of, the subsidiary's action. The Congress should consider pursuing a consistent approach in this matter, limiting sanctions, for example, to imports of products made by Toshiba Machine. A primary concern is, again, with "mirror" approaches by foreign governments that could increase the liability of American corporations by imputing to them the actions of foreign subsidiaries.

If the Congress determines that it is necessary to apply sanctions that would cover imports of products made by the parent Toshiba Corporation and other affiliates, then I must stress the need to craft those sanctions carefully to avoid unnecessary harm to American business. This is a principle reflected in the exemptions contained in the measure that passed the Senate on June 30, and commented on, I think forcefully, by Senator Heinz during the debates on the floor:

Another consideration in . . . denying our market . . . is what should we do in the case of U.S. companies who may be dependent on the importation of components from a company like Toshiba.

Now, you can take a very hard line and say it is more important to make a statement about our national security that is so unambiguous that there should be virtually no exception . . .

Mr. President, I think that, too, is a question of judgment. But in the case where an American manufacturer who is an unrelated party to the offender -- in this case Toshiba or Kongsberg -- and has been totally innocent, as indeed such an unrelated party would probably be, and is an American firm employing Americans, manufacturing products either for sale in this country or for sale abroad, whose only crime would be to use a component that was designed into a product that they manufacture and sell that was produced by one of the offending companies, I believe it would be going too far to make it impossible for that company to obtain that component. That would be shooting ourselves in the foot, as well as the other fellow between the eyes. (Cong. Rec. (Daily Ed., June 30, 1987) at S 8994.)

This goal can be achieved within the context of the exemption language contained in the measure that passed the Senate, so long as that language is clarified. I would like to offer some concrete suggestions in that regard, but first, I should explain why appropriate exemptions are so important to this industry.

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The United States information technology industry is driven by the desire, as well as the competitive necessity, to offer their customers the best and most advanced technology available. The industry has been very successful at meeting these demands of customers both in the United States and in export markets. The commercial reality is that Toshiba and Kongsberg are important suppliers of critical componentry to many companies in these industries; componentry that in many instances is simply not available from any other commercial source. As Senator Heinz put it, some companies in this industry are "dependent" on Toshiba and Kongsberg for certain critical components. The interest of the United States in maintaining the world leadership position of its information technology industry should be taken into account when imposing import sanctions in this case.

Now I would like to review our concrete suggestions on sanctions. The measure that passed the Senate states, basically, that the President is "not required" to apply sanctions for several specific reasons, including situations involving "components but not finished products essential to United States production."

First, I would suggest that this exemption be made mandatory, rather than the subject of Presidential discretion. It is counterproductive to require a U.S. manufacturer to spend six months or longer trying to convince a government administrator that it needs an exemption in an industry in which the state-of-the-art in advanced technology changes as often as every month.

By the way, I did not pull that six-month figure out of the air. That is the minimum amount of time it takes, in most cases, for U.S. companies to convince the Commerce Department to grant an exemption under the Voluntary Restraint Agreements covering imports of steel because a particular item is in "short supply" in the United States. I am not here to complain about that. I merely cite it as a fact of life in the steel industry which I would hate to see become a fact of life in the computer and business equipment industry.

The key is to avoid having to create an import licensing system to determine whether each shipment from Toshiba or Kongsberg qualified under one of the various exceptions. We know from experience with other import and export restrictions how difficult it is to get case-by-case approval.

Second, for similar reasons, the term "component" should be defined to include any item that has no independent use. A component, in other words, is anything that must either be installed in or connected to a more complex product in order to function.

Third, and this is extremely important, a component "essential to United States production" should be defined to include any component that a United States manufacturer chooses to import and use in its finished products. Given the competitive nature of this industry, that choice is going to be made only because the manufacturer has made a determination that the particular component will provide the best way for the finished product to meet the required performance specifications. This judgment is enough to ensure that the component is, indeed, "essential." Again,

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it would be unfairly burdensome on United States manufacturers to have to provide further justification to a government administrator, especially because in some cases, justification would have to be sought before the finished product itself is brought to the market. U.S. manufacturers should not be forced to disclose their most sensitive information -- plans for new products -- in order to justify obtaining a component they have determined is critical to make that new product perform successfully.

In closing, Mr. Chairman, I want to express, on behalf of CBEMA and CCIA our appreciation of the fact that you are holding these hearings today. Our member companies strongly supported the inclusion of export control amendments in Omnibus Trade legislation, and appreciate the work of this Committee, and the Foreign Affairs Committee, that accomplished that. The Senate has done likewise, including adoption of the Garn-Helms amendment concerning Toshiba-Kongsberg. We believe that the Toshiba-Kongsberg issue should be dealt with in the Omnibus Trade bill, and not in separate legislation or amendments to other measures outside the jurisdiction of this Committee and the Foreign Affairs Committee. H.R.3 contains provisions that will better focus the export control system and thus contribute to a stronger multilateral system by increasing the credibility of the overall export control system. While we disagree with some aspects of the Garn-Helms amendment, we feel it comes close enough to an appropriate response that this matter can and should be dealt with in the House-Senate conference on H.R.3 and S.1420.

That concludes my prepared remarks. I would be glad to try and answer any questions you may have.

Chairman GIBBONS. Well, thank you for your very constructive testimony. As I say, my heart goes out to each one of you sitting here at the table. We've got a very tough problem to try to unravel, and we may unravel it in conference, or we may ask the Senate to hold up and let us proceed separately.

Certainly no decision has been made in my mind and no decision has been made in the minds of the Committee about that. This is just the first day of hearings and is very exploratory to find out just what the problem is.

I can assure you that we will not simply take the words of the witnesses today. We will go and find out what information our Government has on this—whether the parent company was involved or was not involved, and determine as best we can where the culpability lies.

But as I said to other folks at the table there, the American patience has just run out with Japan and with Toshiba, and it's unfortunate.

I think there is a feeling in the Congress that somewhere you have to draw the line, and this is where the line is going to have to be drawn. The goal is to draw it so that it does not hurt Americans, it only hurts the offenders.

That is a very difficult line to draw as you have pointed out today. It has probably given you a lot of sleepless nights worrying about that. We'll be worrying about it, too, and will see what can be done about it.

I thank all of you for coming and for waiting so long. I apologize. I had no idea that the questioning of the witnesses was going to take as long as it was or we would have scheduled you at a different time. So please take my personal apology on that.

We do have one further witness though, and we'll excuse you right now if it's all right unless you've got something else you would like to say.

STATEMENT OF HON. CHARLES WILSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. WILSON. Mr. Chairman, I am not going to be long. First of all, I want to thank you for the hearing.

Chairman GIBBONS. If you have a prepared statement, we will put it in the record.

Mr. WILSON. I have no prepared statement.

Chairman GIBBONS. Go right ahead, Mr. Wilson.

Mr. WILSON. I want to thank you for the hearing. It is a pleasure to be here. I read the book about the showdown at Gucci Gulch, and it is a pleasure to be here at Gucci Gulch. I once aspired to this committee but was unsuccessful.

Chairman GIBBONS. Well, we always welcome you.

Mr. WILSON. Mr. Chairman, I want to go over a couple of things that I think are important, and that is, no one has mentioned to you the history of what happened. This is a direct result—and I really do not believe you know it. This is a direct result of the Walker spy case, when Walker, the spy in Norfolk, told the Soviets we were hearing their submarines much better than they thought we were. Then the Soviets began a strong inquiry and investigation

into why we were hearing theirs at a greater distance than they were hearing ours. With Walker's help and his spy ring's help, they discovered that it was the propellers.

Then, the KGB was asked to go and find some companies in the West that would sell them the propellers in defiance of what they knew was COCOM rules. I want to point out to everybody again that this was not any kind of rogue operation, but this was a decision made at a very high executive level with Toshiba and Kongsberg. There was no rogue operation here. There could not possibly have been, and no one says there has been.

Chairman GIBBONS. Let me interrupt you. You say it was made at a very high level. A very high level of Toshiba the parent company or Toshiba the machine tool company?

Mr. WILSON. Mr. Chairman, I really do not think that matters because the Chairman of the Toshiba Corporation would have hired the president of Toshiba Machine. And I would remind you that the chairman of the board and the president of the Toshiba Corporation resigned in some disgrace and embarrassment.

Chairman GIBBONS. Yes. I do not know whether it makes any difference. I just would like to know.

Mr. WILSON. I understand they have the same board of directors, and I do not think we will ever be able to find that question out. But it has not been denied by the chairman and the president of the Toshiba company. They accepted the responsibility.

Chairman GIBBONS. And the board of directors of Toshiba and Toshiba Machine is a common board.

Mr. WILSON. A common board, as I understand it.

Chairman GIBBONS. And they knew about this operation?

Mr. WILSON. Well, I certainly believe they did, and they certainly should have if they did not. They received 51 percent of the profits, Mr. Chairman.

Chairman GIBBONS. I am not arguing with you. I am just trying to find out what the facts are.

Mr. WILSON. Right. Now, one of the industry people mentioned that he was worried there might be mirror legislation from some of our allies. Well, I would hope that would be true. If any of our allies find an American company is violating COCOM and endangering Western security, I would hope they would take action against any American company that did that, and I would hope, therefore, that it would bring it to our attention so we could take action.

Now, Mr. Chairman, I want to hurry. I do not think we have to address ourselves very much to the damage here. No one has denied the damage. But the estimates run between \$30 and \$100 billion, and we are talking about \$100 billion in cost to the American taxpayer over a ten-year period or \$30 billion or 30 submarines. And I think it is important for us to note how many submarines do you think Japan is going to have to build as a result of this. Well, of course, they are not going to have to build any because that is our job, to protect them from the Soviet Union even though they do sell things to the Soviets to make it more difficult for us to defend them. But they do not have to buy any more; they do not have to worry about building any more because they do not have to pay for their defense. We pay for their defense.

There were several remarks from Mr. Derwinski and from several members of Committees, this in no way is anybody after Japan or after any sort of anti-trade legislation. We are trying to say to people who have profiteered from compromising our security, we are simply saying we in the United States, since you have compromised our security, endangered our servicemen, caused us to spend a great deal of money, and you have reduced the qualitative advantage that we had over the Soviets—to compensate for our numerical disadvantage which would not be so great if your country did its part—we are simply saying that since you have done all these things, we are going to deny you our markets for 5 years. That is what my legislation provides. I do not see how any reasonable person could say that is harsh or excessive.

Now, I sympathize with the witnesses that came before, but there is nothing that the United States can do to anybody under any circumstances that does not have some adverse or ripple effect at home, that does not inconvenience somebody. As the Chairman will recall, when the Soviet Union invaded Afghanistan, President Carter wanted to do something that would make the world understand that the United States abhorred the invasion of that small country by the superpower. He canceled the Olympics. That inconvenienced the runners and the heavyweight wrestlers. He enforced a grain embargo which inconvenienced grain producers in the Midwest. But at least it made the point. I make the point here that somewhere somebody else can make those telephones.

Now, I do not know how we can protect every single American consumer. I would be willing to borrow the money and buy them all Sonys or whatever, but it is impossible to erase all possible effects on an American while doing something to protect American security.

I might suggest that it is going to inconvenience a lot of people, the fact that Americans are going to pay \$100 billion in additional taxes at some point in time to make up for this.

Again, I think we should realize the premeditation that went into this. According to COCOM rules, three-axis machines could be sold. Everybody knew that. And with a great deal of premeditation and a great deal of calculation and a great deal of informed deception, they made it possible to sell nine-axis machines to the Soviet Union.

Mr. Chairman, I serve on the Intelligence Committee, I serve on the Defense Subcommittee, the Appropriations Committee, but I do not know everything there is to know or even what the important secrets are to our MX missile, to our strategic response to Soviet threats and that sort of thing. So basically we all know about the same things, but in my area of knowledge I know of only one other secret that could do the damage that the divulgence of this secret did. That is the technology that is presently employed in building our advanced technology bomber, our Stealth bomber. That is the only military secret that I know of in the United States that is as important as what the Toshiba Corporation sold for \$19 million to the Soviet Union.

Now, let us say, Mr. Chairman, that you were Chairman of another Committee and that Northrop Corporation or one of its subsidiaries sold the Soviet Union our Stealth technology. I do not

think in that case you would be grieving for the stock payers of Northrop. I do not think in that case you would be worried about someone who uses Northrop fasteners. I think what the attitude of this Subcommittee would be and the attitude of the entire Congress would be to send everybody in Northrop that had anything to do with the decision to jail for life and fine them into bankruptcy—which is what ought to be done in that case. I do not think anybody would worry about incidentals. I think it is absurd for us to.

Now, we are talking about a company that profited greatly from two or three billion dollars in sales to the United States, two or three billion dollars a year they sell to the United States, and yet they sold out the entire Western alliance for \$19 million.

What I really wish, Mr. Chairman, is that this Subcommittee could have before it the people that did this, the people that actually did this. And so you could ask them what they were thinking about, you know; what is the deal? Was it simply the great desire for that 19 million bucks in extra sales for a company that I believe you said did \$25 billion worth of business around the world?

I think you should be able to ask them, you know, what is the deal? What were you thinking of? Is there no shame at all? Will Japan simply sell anything to anybody that will increase profits by any amount?

I believe that the security of our country depends upon this Subcommittee doing something. I believe that the denial of the American markets is a significant step to take, and I think it should be taken fairly quickly. I think that when it is possible for this Subcommittee to protect interest of innocent people, like the people that have testified here, that perhaps it should do that. But the important thing is to show that crime does not pay. Massive crime certainly should not be allowed to pay.

As one of your Subcommittee members said, if we make COCOM stronger and they break the rules, all we have is a broken treaty. But I submit to the Subcommittee that if you deny them American markets, then, number one, they will not do it; but then if they do it, they will know and others will know in the future that there is a great price to pay. I would certainly plead with the Subcommittee to certainly consider this with due diligence, but certainly give us some action also. Do not consider it and study it to death.

There will always be those exceptions and injustices, et cetera, but the common good takes precedence here and the common good has an enormous stake in this Committee taking fairly decisive and fairly quick action.

I thank the Chairman.

Chairman GIBBONS. Well, let me point out the dilemma the Committee is in. This is the last day that I have for hearings until September because the Committee will be tied up in budget reconciliation, the debt ceiling and a tax bill, to say nothing of the trade bill. We may meet this issue first in the trade bill. That is why I wanted to get started so that we could learn what is going on. We will move as rapidly as we can. It is obvious that we have so many requests for testimony that we are going to have to hear some more people. I will ask the staff to put them on as quickly as we can and to use as many off hours as we can to try to get them in because I do not want to delay this.

Two, we are going to have to hear something from the Defense Department. I do not know where to stop and start. I hate to get into classified material because then it really slows you down.

Mr. WILSON. Why did they not come today, Mr. Chairman?

Chairman GIBBONS. I do not know why they did not come today. We will find out. I do not know whether we would have heard them. You see, we had a Committee meeting at ten o'clock this morning, too, on another piece of legislation. So we have been in session all day. But we will get them up here. There will not be a delay.

Let me ask you something. I am over my head in this, and I will admit it. I do not know much about making propellers. I have bought a lot of propellers in my life, but I never have made one. What is the difference between a three-axis machine and a nine-axis machine in making a propeller? Does a nine-axis machine produce it faster?

Mr. WILSON. No. I do not know the right words. If I had paid more attention when I read Tom Clancy's book, "The Hunt for Red October," I would know better. But it has to do with the—what is the word?

Mr. HUNTER. Cavitation.

Mr. WILSON. Yes. It has to do with the cavitation that is created when the propeller turns. The nine-axis one creates much less cavitation and, therefore, much less sound.

Chairman GIBBONS. Well, you could make one on a one-axis machine. It would just take a lot longer.

Mr. WILSON. I do not think it would be possible.

Chairman GIBBONS. I have watched them make propellers. I never watched them make a high-tech Navy propeller, but I have bought propellers and had them reconditioned. I know what cavitation is and what it does to the performance as well as to the noise of the boat. You know, you have got a propeller that cavitates, and you really lose a lot of speed and a lot of low end performance—in other words, acceleration—if you have got a cavitating propeller.

Of course, you pick up vibrations and you pick up all kind of other things if the propeller is not symmetrical and not balanced and not appropriately designed. I notice that this machine would machine down to .01 millimeter, which is a real, real fine . . . well, .01 is about a hair's width.

Mr. WILSON. I think it takes the nine-axis to get down to the .01 millimeter.

Chairman GIBBONS. Is it that? I am not trying to underestimate the machine. I just wonder how long it would have taken the Russians to figure this thing out had it not been for this defalcation.

Mr. WILSON. Well, they obviously decided it would be a lot easier to find somebody to sell it to them than try to develop it.

Chairman GIBBONS. Yes, that is why I was asking you the original question today, Mr. Hunter, about how much time we lost, lead time. You said about five years' lead time.

Mr. WILSON. You never can tell, Mr. Chairman. I think Duncan's estimate was probably pretty fair. In my gut I really think it is more like ten. But a lot of times in very simple things the Soviets have trouble breaking through—for instance, in Afghanistan, the Stinger missile. Nobody thought that the Mujahadin would be able

to use that thing for 10 or 12 months without the Soviets having a countermeasure when it is an 11-year-old missile, but they have not. You never know.

Mr. HUNTER. Mr. Chairman, that report that they did, especially precisely on the Toshiba issue that is available, I would advise your reading that report because that talks about what these machines do, these nine-axes machines do, that others cannot. You know, the interesting thing about the nine-axes machine is that they are so important to military technology that they were banned with a lot of other things besides propellers in mind. In other words, the rule that you cannot sell anything more than a three-axes to the Russians was put in for a very specific reason because there is a lot of things where you need this tremendous precision.

From what I understand, without getting into a lot of classified stuff, they could have maybe carved these propellers out with something else, but they never could have done it with enough precision that this very slight vibration that you spoke of or noise or turbulence would not have been heard by our submarines. In other words, you needed a perfect balance, and these were the only machines that allowed them to achieve that perfect balance to eliminate the noise or the cavitation.

Mr. WILSON. What can we do——

Chairman GIBBONS. Well, I am going to try to read that report, but that will not hold up the deliberations of the Committee.

Mr. WILSON. You will be persuaded of the damage, Mr. Chairman. I do not have any question about that. But what are you saying would be the legislative situation time-wise?

Chairman GIBBONS. We are probably going to have to have another day or so of hearings on this subject. We have to hear the Defense Department, and perhaps we are going to have to get a report from the administration on what they have done in COCOM this week. Then we would have to sit down and mark up a bill.

You know what the schedule is from here on out. This week is shot after tomorrow, and then I have no additional time allocated to me by the chairman to have a committee meeting. He has preempted all committee meetings because we have to get out the reconciliation product and the debt ceiling tax bill. When I say reconciliation, I am talking about Social Security, Medicare, unemployment compensation, a welfare bill, and an anti-drug bill.

And the chairman has appendicitis. I understand he will be back next week, though. That is the problem that we face. I want to put this in a high priority, but I have some time problems.

Mr. WILSON. When do you anticipate going to conference with the Senate on the trade bill?

Chairman GIBBONS. Lord only knows. Whenever they finish and signal that they are willing to go to conference, we have to be ready to go. That may be the first time we can deal with this issue. We are going to have to deal with it in conference because it is in their bill.

We will work as hard as we can.

Mr. WILSON. Okay. I would like to make one more point.

Chairman GIBBONS. Certainly.

Mr. WILSON. You mentioned what COCOM has done, and I would like to point out that until the Senate attacked this amendment,

nobody took this seriously. COCOM did not take it seriously. The Japanese did not take it seriously. COCOM has not done anything. The Japanese had prohibited Toshiba Machine from trading one year with Eastern bloc countries, and the statutes had run out on everybody that had anything to do with it.

Chairman GIBBONS. Mr. Wilson, I have heard about COCOM for years. One day I made a trip to Europe just to visit COCOM. You heard me describe going across the back alley; I think it was outside the back side of the embassy. It has been a number of years ago. I walked up the stairs and got into what was COCOM. I thought I had just come in the back way because it was convenient or something. I found out that was the entrance.

I thought COCOM sounds great, but it sure did not have a very good piece of real estate to occupy. I realize you cannot judge a person by his real estate, but there was not a lot of attention being given to COCOM at that time. That was when COCOM was pretty high on the agenda around here. The PX had a lot better quarters.

Mr. WILSON. I think that is right.

Chairman GIBBONS. And I thought, this is the international headquarters and yet it is housed in what looks like a rented annex of the American embassy in Paris. I realized, though, that perhaps I had not seen the whole picture. I did not see that mimeograph machine that Mr. Perle talked about, but there was no other high-tech equipment lying around; a few IBM typewriters and that was it.

Mr. WILSON. Well, we certainly look forward to the committee's—

Chairman GIBBONS. And I found that COCOM had a visiting itinerary of people who dropped in every now and then. People felt that, if they wanted to go to the races in Paris, they could arrange a COCOM meeting or something like that. Nobody is going to argue with you because nobody really knew what they were doing. I just backed off the situation.

Mr. WILSON. Well, we thank the committee.

Chairman GIBBONS. I did not want to bore you with all those details.

Mr. WILSON. No, I appreciate it.

Chairman GIBBONS. It is a serious matter, and we will keep right on it. Thank you all.

Mr. WILSON. Thank you, Mr. Chairman.

Mr. HUNTER. Thank you, Mr. Chairman.

Chairman GIBBONS. If people have written statements that they would like to submit, we would hope that they would do so by July 17, this coming Friday. But we are going to have other hearings after that time.

This concludes our hearing for today.

[Whereupon, at 7:45 p.m., the hearing was adjourned.]

[Submissions for the record follow:]

STATEMENT BY
DR. PAUL FREEDENBERG
ASSISTANT SECRETARY OF COMMERCE
BEFORE THE
HOUSE COMMITTEE ON WAYS AND MEANS
SUBCOMMITTEE TRADE

JULY 13, 1987

THE ILLEGAL SALES OF SOPHISTICATED MACHINE TOOLS AND ASSOCIATED SOFTWARE TO THE SOVIET UNION BY COMPANIES LOCATED IN TWO OF AMERICA'S CLOSEST ALLIES RAISES THE MOST SERIOUS AND FUNDAMENTAL EXPORT CONTROL QUESTION. SPECIFICALLY, HOW CAN WE PREVENT THE RECURRENCE OF SUCH DAMAGING TECHNOLOGY TRANSFER?

THE ADMINISTRATION IS DEEPLY CONCERNED ABOUT THE EFFECT THE EXPORTS WILL HAVE ON OUR NATIONAL SECURITY AND THAT OF OUR ALLIES. HOWEVER, WHILE THE SALES DID BREACH INTERNATIONAL EXPORT CONTROL AGREEMENTS OBSERVED BY COCOM COUNTRIES, AS WELL AS JAPANESE AND NORWEGIAN LAWS, THEY DID NOT INCLUDE PRODUCTS OF U.S.-ORIGIN AND, THEREFORE, DID NOT CONSTITUTE VIOLATIONS OF U.S. LAW.

THE TOSHIBA/KONGSBERG CASE STRONGLY UNDERSCORES THE FACT THAT WIDESPREAD AVAILABILITY OF SOPHISTICATED EQUIPMENT FROM OTHER COCOM COUNTRIES MAKES STRICT UNILATERAL U.S. EFFORTS FUTILE. WE MUST INSIST THAT ALL COCOM MEMBERS APPROACH EXPORT CONTROLS WITH THE SAME ENERGY AND DEDICATION AS THE UNITED STATES. FOR EXAMPLE, THE UNITED STATES HAS INSTITUTED THE STIFFEST PENALTIES FOR EXPORT CONTROL VIOLATIONS IN THE WORLD. WHEN THE EXPORT ADMINISTRATION ACT WAS REAUTHORIZED IN 1985, IT INCLUDED AN INCREASE IN PENALTY FOR NATIONAL SECURITY VIOLATIONS. UNDER THE ACT, A COMPANY MAY BE FINED, PER VIOLATION, UP TO FIVE TIMES THE VALUE OF THE EXPORT OR \$1 MILLION, WHICHEVER IS GREATER. INDIVIDUALS MAY BE FINED NOT MORE THAN \$250,000, AND MAY NOT BE IMPRISONED FOR MORE THAN 10 YEARS, OR BOTH.

FOR THE PAST SEVEN YEARS, THIS ADMINISTRATION HAS AGGRESSIVELY PURSUED THE UPGRADE OF BOTH OUR DOMESTIC AND MULTILATERAL EXPORT CONTROL REGIME.

AT HOME, WE HAVE MORE THAN QUADRUPLD THE NUMBER OF PERSONNEL INVOLVED IN EXPORT CONTROL, SUBSTANTIALLY INCREASED FUNDING FOR EXPORT CONTROL PROGRAMS, AUTOMATED ROUTINE ASPECTS OF THE LICENSE PROCESS, HEIGHTENED THE AWARENESS OF THE EXPORTING COMMUNITY TO THE NEED FOR PROTECTING SENSITIVE EQUIPMENT AND TECHNICAL DATA, REORGANIZED THE BUREAUCRACY TO BETTER DEAL WITH EXPORT CONTROL ISSUES, RAISED THE TECHNICAL EXPERTISE OF OUR LICENSING PERSONNEL, STRENGTHENED OUR DISTRIBUTION AND INDIVIDUAL VALIDATED LICENSE PROCEDURES, AND GENERALLY MADE THE SYSTEM MORE EFFECTIVE, EFFICIENT AND RESPONSIVE.

ABROAD, WE HAVE UPGRADED BOTH THE FACILITIES AND STATUS OF COCOM, STRENGTHENED BILATERAL AND MULTILATERAL COOPERATION, AND ENCOURAGED COUNTRIES OUTSIDE THE WESTERN ALLIANCE TO DEVELOP "COCOM-LIKE" CONTROLS. THERE CAN BE NO DOUBT THAT OUR COMMITMENT TO A RATIONAL AND EFFECTIVE EXPORT CONTROL REGIME IS TOTAL AND UNWAVERING.

HOWEVER, IT IS CLEAR THAT THIS COMMITMENT TO FULLY ADMINISTER AND ENFORCE MULTILATERAL EXPORT CONTROLS IS NOT CONSISTENTLY SHARED BY OUR COCOM ALLIES. CONSEQUENTLY, THE ADMINISTRATION HAS BEEN PURSUING HARMONIZATION AND IMPROVEMENT OF LICENSING AND ENFORCEMENT AT COCOM OVER THE PAST FIVE YEARS.

WE HAVE BEEN ENERGETICALLY DISCUSSING WITH OUR COCOM ALLIES THE NEED FOR ALL MEMBERS TO PURSUE THE FOLLOWING:

1. HIGH QUALITY LICENSE REVIEW, INCLUDING DETAILED TECHNICAL ANALYSIS OF EQUIPMENT PROPOSED FOR EXPORT, AND END-USER CHECKS. THIS WILL REQUIRE, IN SOME CASES, ADDITIONAL MONETARY AND PERSONNEL RESOURCES BY OUR COCOM ALLIES.
2. ADDITIONAL PUBLICATION OF CONTROL LISTS AND EDUCATION OF THE EXPORTING PUBLIC TO THE NEED FOR EXPORT CONTROLS.
3. COORDINATION OF LICENSING AND ENFORCEMENT EFFORTS.

4. ADOPTION OF UNIFORM INTERPRETATIONS OF COCOM CONTROLS. IN THIS WAY, LICENSING AUTHORITIES WOULD BE ABLE TO PLUG GAPS IN THE CONTROLS CREATED BY "FORUM SHOPPING."
5. COMMITMENT TO THE PROPOSITION THAT EXPORT CONTROL OFFENSES ARE SERIOUS. COCOM MEMBERS' NATIONAL LAWS OUGHT TO REFLECT THE SERIOUSNESS OF THE CRIME. WILLFUL VIOLATIONS OF EXPORT CONTROL LAWS SHOULD BE SUBJECT TO CRIMINAL PROSECUTION.

THE THREAT OF CRIMINAL PROSECUTION CAN ACT AS A POWERFUL DETERRENT TO UNSCRUPULOUS BUSINESS PRACTICES. IF ALL COCOM COUNTRIES AGREED TO TREAT WILLFUL EXPORT CONTROL VIOLATIONS AS SERIOUS CRIMINAL OFFENSES, THE RENEGOTIATION OF EXTRADITION TREATIES TO INCLUDE EXPORT CONTROL OFFENSES MIGHT ALSO BE FACILITATED.

6. IMPLEMENTATION OF IMPROVED CHANNELS FOR SHARING INFORMATION ON VIOLATIONS OF MULTILATERAL EXPORT CONTROLS.
7. ADOPTION OF A STANDARD DESTINATION CONTROL STATEMENT THAT WOULD BE REQUIRED ON ALL SHIPPING DOCUMENTS ACCOMPANYING STRATEGIC COMMODITIES. SUCH A STATEMENT IDENTIFIES COMMODITIES THAT ARE CONTROLLED TO CERTAIN SPECIFIED DESTINATIONS. WE BELIEVE THIS WOULD BE A POWERFUL TOOL TO ASSIST CUSTOMS INSPECTORS TO TRACK THE MOVEMENT OF CONTROLLED COMMODITIES.
8. IMPROVEMENT IN ENFORCEMENT COOPERATION ON A WORKING LEVEL. ENFORCEMENT OFFICERS FROM MANY COUNTRIES ARE DISCUSSING (1) TECHNIQUES TO PREVENT THE DIVERSION OF STRATEGIC GOODS, (2) THE ROLES AND RESPONSIBILITIES OF ENFORCEMENT AGENCIES, AND (3) COOPERATION AMONG NATIONAL AGENCIES AND DEPARTMENTS.

AS YOU CAN SEE, COMMERCE IS STRONGLY COMMITTED TO IMPROVING MULTILATERAL EXPORT CONTROL LICENSING AND ENFORCEMENT. WE HAVE LED BY EXAMPLE AT CONSIDERABLE EXPENSE AND EFFORT. WE CAN EXPECT NO LESS FROM OTHER COCOM MEMBERS.

COMMERCE HAS CONFERRED WITH REPRESENTATIVES OF THE GOVERNMENTS OF JAPAN AND NORWAY, UNDERLINING THE NEED TO PREVENT FURTHER UNAUTHORIZED TRANSFERS. I AM CONFIDENT THAT THEY WILL TAKE APPROPRIATE ACTIONS IN ACCORDANCE WITH INTERNATIONAL UNDERSTANDINGS AND THEIR RESPECTIVE NATIONAL LAWS. BOTH GOVERNMENTS ARE PURSUING THE LEGAL AND REGULATORY PROCEDURES AVAILABLE TO THEM TO INVESTIGATE AND PUNISH THOSE RESPONSIBLE FOR THE UNAUTHORIZED EXPORTS. IN ADDITION, DOC WILL NOT RENEW TOSHIBA'S U.S. SUBSIDIARY'S (TOSHIBA INTERNATIONAL CORPORATION) DISTRIBUTION LICENSE UNTIL WE ARE SATISFIED THAT THE COMPANY AND ITS APPROVED CONSIGNEES HAVE INTERNAL CONTROL PROGRAMS WHICH WILL ENSURE FUTURE COMPLIANCE WITH COCOM AND U.S. EXPORT CONTROL LAWS AND REGULATIONS. ALTHOUGH KONGSBERG IS NOT PRESENTLY THE HOLDER OF, NOR A CONSIGNEE ON, A U.S. DISTRIBUTION LICENSE, WE PLAN TO MEET WITH OFFICIALS OF THAT COMPANY AS WELL, TO WORK WITH THEM IN DEVISING AN IMPROVED INTERNAL CONTROL PROGRAM.

THIS CASE HAS SHOCKED THE GOVERNMENTS OF JAPAN AND NORWAY INTO RECOGNIZING FLAWS IN THEIR CURRENT LICENSING AND ENFORCEMENT SYSTEM. IT ALSO SERVES AS A LESSON TO OUR COCOM ALLIES THAT MUCH STILL NEEDS TO BE DONE TO ENHANCE COCOM'S EFFECTIVENESS.

JAPAN AND NORWAY SHOULD BE IN THE FOREFRONT AT COCOM IN PUSHING FOR STRENGTHENED NATIONAL ENFORCEMENT MEASURES BY ALL MEMBER GOVERNMENTS AND SEEKING UNIFORM LEVELS OF DOCUMENTATION AND PROTECTION FOR TECHNOLOGY SOLD TO CUSTOMERS IN NON-COCOM COUNTRIES. UNIFORMITY IN THIS AREA BY ALL COCOM COUNTRIES WILL ENSURE AGAINST THE COMPETITIVE USE OF EXPORT CONTROL LAXITY AS A SALE TECHNIQUE.

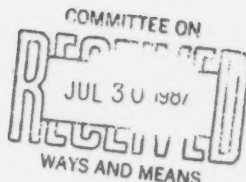
IN A BROADER SENSE, THE UNITED STATES SHOULD CAPITALIZE ON THIS REGRETTABLE INCIDENT. WE BELIEVE THAT THIS CASE UNDERSCORES THE NEED FOR THE WORK WE ARE DOING TO IMPROVE COOPERATION AND UNDERSTANDING ON MULTILATERAL CONTROLS WITH ALL COCOM MEMBER COUNTRIES, AND TO FORGE COCOM-LIKE AGREEMENTS WITH OTHER FREE WORLD TRADING PARTNERS. I THINK WE CAN ANTICIPATE IMPROVED ASSISTANCE FROM THE JAPANESE AND NORWEGIANS WITH RESPECT TO OUR EFFORTS.

FINALLY, I'D LIKE TO CLARIFY THAT NOTHING CONTAINED IN THE CONGRESSIONAL TRADE BILLS TO STREAMLINE U.S. EXPORT CONTROLS HAS ANY CORRELATION TO THE TOSHIBA/KONGSBERG CASE. SENATOR GARN, DURING THE SENATE BANKING COMMITTEE HEARING ON THIS CASE, CONCURRED WITH THAT FACT. THE PROPOSED BILLS SEEK TO REMOVE LOWER LEVEL, LESS SENSITIVE ITEMS FROM CONTROL, SO THAT MORE RESOURCES MAY BE DEVOTED TO CONTROLLING HIGH-LEVEL, TRULY STRATEGIC ITEMS. THE COCOM COUNTRIES HAVE LONG REQUESTED THIS. HERE, THEN, IS THE OPPORTUNITY TO USE THE STREAMLINING EFFORTS TO THE BEST ADVANTAGE: BY HOLDING THE COCOM ALLIES TO THEIR PROMISE OF ENHANCED EXPORT CONTROL AND ENFORCEMENT EFFORTS IF THE CONTROL LIST IS STRIPPED OF LOW-LEVEL, NON-STRATEGIC ITEMS. CLEARLY, NOTHING SHORT OF AN EFFECTIVE MULTILATERAL CONTROL EFFORT CAN PREVENT SOVIET ACQUISITION OF SENSITIVE COMMODITIES AND TECHNOLOGIES.

ALDRICH & ASSOCIATES

July 24, 1987

Honorable Dan Rostenkowski
 Illinois - 08th District
 The House of Representatives - 2111 RHOB
 Washington, DC 20515



Dear Representative Rostenkowski:

Our Long Beach, California-based company employs six people full time and a handful of people part time. We are also responsible for buying hundreds of thousands of dollars of services from printers, designers, typesetters, and audio/visual houses. Furthermore, we spend thousands of dollars annually on messenger services, temporary secretarial service, telephones, etc. We pay taxes at just about every level of government that's permitted to collect them.

We are, in short, an example of the growing entrepreneurial spirit that is leading this nation back to a period of full employment.

Yet, Congress, unwittingly, may very well put us out of business.

I refer to the precipitous efforts to ban the import of Toshiba products. You see, the Telecommunication Systems Division of Toshiba America is one of our largest clients.

And our company is just one tiny link in a huge economic chain that could be destroyed or impaired unless our elected representatives come to their senses and once again decide to act in a responsible, thoughtful manner.

It's very easy to put a number to the American work force employed directly by Toshiba (4,000 +). Not so easy, however, is to calculate the vast number of Americans who depend, in part, upon the continued success of this company for their livelihoods. Consider the thousands of dealers who sell Toshiba products, some of them exclusively. Consider the subcontractors and vendors who service the domestic Toshiba manufacturing plants...the shipping companies, materials suppliers, etc.

Yet, without regard to these facts and certainly without thoughtful consideration of the consequences, a handful of our elected representatives have chosen to stage an ugly product smashing episode on Capitol Hill recently. Combined with the current wave of protectionism promoted by some of these very same

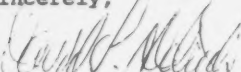
Toshiba letter, page 2

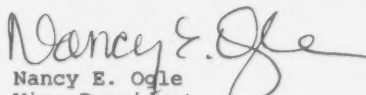
legislators, they have single-handedly inflicted economic damage already.

We oppose illegal sales of equipment as much as anybody. But the cure is criminal prosecution and strengthening of controls, not destroying an entire company's ongoing business and, in turn, injuring the many American businesses who sell to it.

We want to register our strongest objections to these tactics and to urge you to seek more appropriate, more ethical, and more studied ways to deal with this problem. We are counting on you to stop this legislation before it hurts your constituents and thousands of other innocent U.S. workers.

Sincerely,

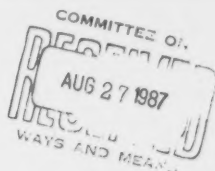

David L. Aldrich
President


Nancy E. Ogle
Vice President



Authorized Dealer
HARRIS 3M · IBM · 3M · TOSHIBA

Hon. Dan Rostenkowski
Illinois - 08th District
The House of Representatives - 2111 RBOB
Washington, D.C. 20515



Dear Mr. Rostenkowski,

I am writing to voice my strong opposition to the current trade Legislation in Congress, as pertaining to the proposed product ban against Toshiba Corporation.

I consider the ban to be unfair and unethical, if not illegal. Serious questions exist as to the constitutionality of the proposed legislation as it pertains to American jobs and business.

My company has already suffered from the bad publicity generated by this proposed ban.

It could conceivably cost over \$200,000 for our company alone, just to convert to a new product line.

However, we have based our business and reputation on the Toshiba product line as have our employee's in sales, administration, and service technicians who have devoted years of training to the product.

Toshiba Machine Company should be punished for this act, not Toshiba Corporation, not Toshiba American, and not thousands of people in the United States.

Sincerely,

John A. Taylor
John A. Taylor
American Office Systems, Inc.
Toshiba Products Division

JAT/jdb

An Open Letter To Congress and the President

- **IT'S UNFAIR TO PUNISH TOSHIBA CORPORATION** for the illegal act of TOSHIBA MACHINE COMPANY selling milling machines to Russia to produce quieter submarine propellers. Toshiba Corporation owns only 50.8% of Toshiba Machine and does NOT manage the Company. Toshiba Machine has its own Board of Directors. It is traded separately on the Tokyo Stock Exchange. They issue their own Annual Report. Their Sales and Profits are not combined with Toshiba Corporation. No employees of Toshiba Corporation manage the company. Toshiba Machine is run and managed as a completely independent company. Toshiba Corporation does not participate in, control or manage any business decisions made by Toshiba Machine. Toshiba Machine is 1 of 37 subsidiary companies owned by Toshiba Corporation.
- **IT'S UNFAIR TO PUNISH TOSHIBA CORPORATION** when Toshiba Corporation has NEVER been accused of participating in the illegal activity of Toshiba Machine. It's like punishing a father for an illegal act of a son. NO CHARGES have ever been made against the Executives of Toshiba Corporation. **IT'S UNFAIR TO PUNISH TOSHIBA CORPORATION** when they have given their full cooperation in the investigation and punishment of the executives of TOSHIBA MACHINE COMPANY. TOSHIBA CORPORATION has banned TOSHIBA MACHINE from selling to a communist country ever again.
- **IT'S UNFAIR** to require the resignation of the President and the Chairman of the Board of TOSHIBA CORPORATION when NOBODY has accused either man or Toshiba Corporation of any illegal activity.
- **IT'S UNFAIR TO PUNISH** the thousands of Americans who work for TOSHIBA AMERICA, their Dealers, their Employees, their Families and the thousands of Americans who want to purchase Toshiba products. If you want to punish TOSHIBA MACHINE for its activities, that punishment would be appropriate. The Managers of Toshiba Machine Company have violated the laws of Japan. They have been terminated and they have been indicted for their crime.
- **IT'S UNFAIR TO PUNISH** Hundreds of Thousands of Americans who own Toshiba Products and are afraid they will no longer be able to get Service, Supplies and Spare Parts for their Toshiba Products. These Americans are just as innocent as Toshiba Corporation and should not be punished for the acts of Toshiba Machine Company. Although the Amendment to the Trade Act exempts Spare Parts and Supplies for All Toshiba Products, many Americans still fear their Toshiba Products will soon be obsolete and they will have to spend Hundreds of Millions of Dollars to replace their Toshiba Home Appliances, Computers and Copiers. In Copiers alone Americans purchased 115,000 Toshiba Copiers in 1986, and there are over 500,000 Toshiba Copiers in use in the United States. Many of them are used by Federal, State and Local Governments.
- **IT'S UNFAIR TO PUNISH TOSHIBA CORPORATION** when they have taken the lead in reducing the Balance of Payments problem with the United States. Toshiba Corporation purchases hundreds of millions of dollars of American products annually that are used in products Toshiba manufactures in Japan. They have a permanent Trade Mission in the United States making every effort to increase their purchases of American manufactured products. While other Japanese companies sell 50% or more of their products to the American Market, Toshiba sold only 7% of its 23 Billion Dollar worldwide sales in America in 1986. Toshiba has never been a threat to America's balance of payment problem. Toshiba also employs thousands of Americans manufacturing Toshiba products sold in America. Toshiba Products are well known for their Excellent Quality, Advanced Features, and Superior Reliability and they usually don't compete with products made in America.
- **IT'S UNFAIR TO BLAME TOSHIBA CORPORATION** for the acts of TOSHIBA MACHINE when you do NOT blame the Norwegian Government for the illegal acts of its 100% State Owned and Managed Company Kongsberg Vaapenfabrikk which sold the Computer Software to operate the milling machines sold to Russia. Shouldn't we ask the Prime Minister of Norway to resign as the price of allowing Norway to continue doing business with the United States. The top Executives of TOSHIBA MACHINE COMPANY have resigned and were indicted for their illegal activity. The President and Chairman of the Board of Toshiba Corporation have resigned stating, "They apologize for the harm this incident has done Japanese-American relations and although they did not participate in the decisions of Toshiba Machine Company they are prepared to take the blame if it will help repair the damage done to the trust between our two countries." The Norwegian Government blamed the entire incident on ONE English employee of their State Owned Company Kongsberg Vaapenfabrikk and NOBODY has been indicted for illegal activity.
- **IT'S UNFAIR** to assume Russia will have this submarine technology forever. As soon as these milling machines need Spare Parts, Service or encounter software problems they will go out of operation and Russia will not be able to continue to manufacture quiet submarine propellers.
- Japan and Norway have offered to help the United States maintain its technical superiority over Russia in anti-submarine warfare by sharing their advanced technology with the United States. In addition both countries have increased their surveillance of all shipments to Communist countries to prevent another breach in our mutual security. This breach will not affect our defense for many years. Today Russia has only one submarine with a quiet propeller. Russia has 277 submarines we can detect anywhere in the world. It will take Russia 10 years to replace these 277 outdated submarines. Our newest submarine, the Seawolf, is the world's quietest and has the technology to detect any submarine Russia can build. The Pentagon says it's 10 years ahead of Russian submarines. Next year the Navy wants to spend 1.7 Billion Dollars researching submarine warfare. Let's take Japan and Norway's offer to assist us in this research as their compensation for allowing this breach in our security.

WASHINGTON PHOTOCOPY

STATEMENT OF
APPLIED ENERGY SERVICES, INC.
BEFORE THE TRADE SUBCOMMITTEE
COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES

July 14, 1987

Mr. Chairman and Members of the Subcommittee:

Mr. Chairman, my name is Roger Sant. I am President of Applied Energy Services, Inc. ("AES"). AES is an American company that develops and operates cogeneration facilities all over the United States. We are presenting this statement today because last year we entered into an equipment contract with Toshiba International Corporation. We thank you for this opportunity to inform you of our situation and how a total ban on Toshiba imports without exemption could harm U.S. industry.

Applied Energy Services, Inc. has its headquarters in Arlington, Virginia. The company owns and operates cogeneration power plants. These facilities burn coal or gas to boil water. The boiling water produces steam, some of which is used to spin a turbine to generate electricity and the rest is sold to factories for use in manufacturing.

Applied Energy Services was formed in 1981. The company has two plants currently in operation: one near Houston, Texas and the other in Monaca, Pennsylvania. Another two plants are currently under construction in Connecticut and California. AES has just completed the financing arrangements for a \$475 million Oklahoma power plant that will burn coal to generate electricity for sale to Oklahoma Gas & Electric Company.

The Connecticut power plant project is located near Montville, Connecticut on the Thames River. Construction work began in February, 1987 and is expected to be completed in August, 1989.

The project has a contract with Toshiba International Corporation, signed on June 20, 1986, for purchase of a steam turbine costing approximately \$14 million. The turbine won't be ready for import until the middle of next year. It is mandatory that steam turbines of this size be ordered from any manufacturer at least two years before the required delivery date. If the project had to supply another steam turbine in lieu of the Toshiba turbine at this time, the expense of such substitution would be prohibitive and the impact to the schedule would be very detrimental. The steam turbine is one of two major pieces of equipment in a power plant of this kind. The other integral part is a boiler that is being supplied by Combustion Engineering, Inc. of Winsor, Connecticut.

A subsidiary of AES borrowed more than \$250 million to build the Thames power plant. It has a series of contractual commitments, in addition to loan payment obligations. AES has agreements with the Connecticut Light & Power Company to supply CL&P 180 megawatts of electricity from the facility and with a subsidiary of the Stone Container Corporation to supply up to 230,000 pounds of steam an hour for use in a nearby paper mill. It also has a contract to buy West Virginia coal for 15 years from CSX Transportation, Inc.

This is just part of a series of contractual commitments that the company has undertaken as part of the Thames project. The ability of Applied Energy Services to meet its loan and other contractual commitments is tied directly to whether it will receive the steam turbine on schedule.

Applied Energy Services is concerned about the effect this sale of sensitive milling machines to the Soviet Union has had on our defense. AES, like most Americans, was unaware of the sale at the time AES signed its contract with Toshiba International Corporation. It did not learn of the sale until Congressman Duncan Hunter introduced his bill to ban all Toshiba imports on April 30, 1987. AES asserts that American industry should not be harmed in the process of punishing Toshiba.

AES is in favor of the omnibus trade bill amendment approved by the Senate on June 30, 1987. While this amendment requires the President to impose trade sanctions against all Toshiba subsidiaries, it includes the following exemption:

The President is not required to apply sanctions under this subsection . . . (2) to imports shipped under contracts signed before May 1, 1987, to spare parts and component parts, but not finished products, essential to United States production, to routine servicing and maintenance of products already supplied; or to information and technology.

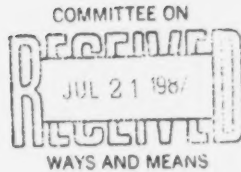
AES requests that similar language be incorporated into a House bill or amendment that bans Toshiba imports so that its Connecticut power plant commitments may be fulfilled. AES believes that a May 1, 1987 contract cutoff date is fair to American companies that did not become aware of the Toshiba allegations until Congressman Hunter's bill was introduced.

In summary, Applied Energy Services asserts that American companies entering into contracts with Toshiba prior to May 1, 1987 should be allowed to receive Toshiba imports pursuant to those contracts. Thank you again for the opportunity to state our position.

Mr. Roger Sant
President
Applied Energy Services, Inc.
1925 North Lynn Street
Suite 200
Arlington, Virginia 22209
(703) 522-0073



Hon. Dan Rostenkowski
The House of Representatives
2111 RHOB
Washington DC 20515



July 16, 1987

Dear Representative Rostenkowski,

The purpose of this letter is to appeal to you not to ban Toshiba products in this country. I am a freelance writer responsible for many of Toshiba America's high quality computer manuals. The proposed trade legislation could effectively bar my valued customer from doing business in the United States.

As a loyal American citizen, I oppose illegal sales of equipment as much as anybody. When something, like the sale of the milling machines to the Soviet Union happens, the individuals responsible should be prosecuted in the courts of the country responsible and controls should be tightened worldwide.

In my opinion, banning all Toshiba products far exceeds just punishment for this crime. It will hurt American businesses -- beyond the effects of a trade war -- because cutting off the two-way flow of goods and services deprives consumers of many superb products (including the very popular Toshiba laptop computers) and destroys the American jobs created by Toshiba.

I strongly urge you to stop this legislation before it hurts American citizens. I'm counting on you.

Yours truly,

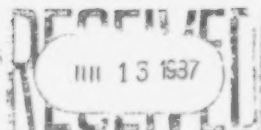
Julie Atkins
Julie Atkins
Owner

1901 E. Carnegie Avenue, 1-K
Santa Ana, CA 92705
(714) 250-8842



CARLICE ADVERTISING PUBLIC RELATIONS

COMMITTEE ON



July 10, 1987

VICTORIAN NS

Honorable Congressman,

I understand that the House Ways and Means Committee is considering a ban on the import of Toshiba products into the United States. The effects of such a ban on the U.S. work force and economy should be seriously considered.

Toshiba directly employs 4,000 U.S. citizens in this country and several thousand Toshiba dealers in the U.S. Plus, jobs in sales, advertising, marketing and maintenance of Toshiba products. Thus, many thousands of U.S. jobs could be jeopardized by the negligence of a few individuals.

Toshiba Corporation has been making many efforts to reduce the U.S./Japan trade deficit. We should be trying to build relationships with them, not destroy what already exists.

On a more personal level, I enjoy and support Toshiba products both at home and work, and my involvement with Toshiba America contributes to my livelihood.

Toshiba Corporation has taken strong measures on the Toshiba Machine issue. Do not imperil the future of anyone other than those involved. Take action against Toshiba Machine employees as has the Japanese government.

I ask you to investigate and study this situation thoroughly before taking the appropriate action and voting against any ban of Toshiba products. You will see that any legislation that would ban the import of products of an entire company in America is wrong and must not be taken.

Thank you for your consideration.

Sincerely,

Patty Liebscher
Account Executive



COPY MACHINE HEADQUARTERS

July 13, 1987

Hon. Dan Rostenkowski
 Illinois 08th District
 The House of Representatives - 2111 RHOB
 Washington DC 20515

This letter is an appeal to you to fight against the banning of Toshiba products from the U. S. A..

As an independent businessman handling Toshiba copiers, we stand to suffer immeasurably from this action. We are one of approximately 400 Toshiba copier dealers who are involved with servicing thousands of Toshiba copiers.

We at C. G. Inc. only have 34 employees, but if you multiply layoffs from small companies like ours by the tremendous number of Toshiba Dealers Nationwide, you have a substantial number of layoffs.

Our customers are concerned about buying a product that may be banned. All of this adds up to lost revenues and the possible loss of our entire business. I subscribe your help.

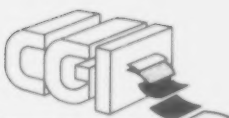
Very Truly Yours,

C. G. INCORPORATED

Robert J. Scrivano
 President

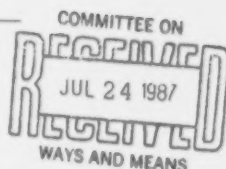
RJS/pk

C G Incorporated 1279 Veterans Blvd., Redwood City, CA 94063 (415) 365-5141



COPY MACHINE HEADQUARTERS

July 20, 1987



Hon. Dan Rostenkowski
 Illinois - 08th District
 The House of Representatives - 2111 RHOB
 Washington DC 20515

As one of your constituents, I appeal to you to restore reason to Congress and to stop proposed legislation that threatens the livelihood of my company and our employees. I am President of C. G. Inc. located at 1709 E. Bayshore Road, Redwood City, California, and the proposed legislation would ban Toshiba products from the United States, products on which my company depends.

As an independent American business, we have invested our resources and our personal futures in providing products and services to our community, products and services which we believe our neighbors prefer. We market, service and depend heavily on Toshiba Photocopier and Facsimile systems. If these products are denied us, as the proposed trade ban seems geared toward doing, our business will suffer mightily and needlessly.

The Senators who sponsored this trade legislation may have had good intentions, but what they propose to do will have bad results. A newspaper editor in New York wrote in the New York Times on July 6, 1987, that "these measures would hurt America and the alliance. U.S. sanctions would invite a destructive free-for-all among allies, each seeking redress for any offense." He was right. He should also have added these sanctions will hurt American businesses as well -- beyond the effects of a trade war -- since cutting off the flow of products hurts us, your constituents, from the very start.

I oppose illegal sales of equipment to the Soviet Union as much as anybody. When something like that happens, though, the cure is criminal prosecution in the courts of the individuals involved and strengthening the controls worldwide. This is being done. Destroying one company's products or prohibiting Americans from buying those products, however, punishes the innocent more than anyone else.

The time has come for Congress to act rationally. The time has come to stop this legislation before it hurts your constituents. You are our voice in Congress. We are counting on you.

Very Truly Yours,

Robert J. Scrivano
 President/C.G. Incorporated

C. G. Incorporated 1279 Veterans Blvd., Redwood City, CA 94063 (415) 365-5141

STATEMENT OF JOHN STADLER, EXECUTIVE VICE PRESIDENT
CLEARPOINT, INC.

The proposed blanket import ban on the products of the Toshiba Corporation would have a disastrous impact upon the U.S. computer industry. American computer manufacturers would find their export markets dry up almost immediately and their U.S. market under siege by unfairly advantaged Japanese competitors.

I share your sense of outrage at Toshiba Corporation's diversion of sensitive high technology to the Soviet Union. I agree that Toshiba should be penalized for the loss the U.S. has sustained. However, I must urge that you exact retribution from Toshiba in a manner that will not harm American industries. A total ban of Toshiba products would only compound the damage that already has been done.

In the five years that my company has been in business we have earned a reputation as one of the largest and most innovative firms in the computer add-in memory market. The principal element making up our product is the DRAM (Dynamic Random Access Memory), the "memory chip" that is needed to make a computer operational. On average, the value of memory chips comprise 50% of the cost of the products we sell.

In recent years we have seen a rapid progression from 16 Kilobyte (K), to 64K, to 256K to 1 Megabit (Mbit) DRAMS, with the promise of 4Mbit and 16Mbit chips not far into the future. All major U.S. computer manufacturers have either introduced or are designing their next generation of products around the 1Mbit DRAM. Without access to these chips, development work will be stifled and competitive advantages lost to foreign manufacturers.

As DRAM technology has advanced we have been able to offer our customers a higher density, better performing and much, much lower priced product. Advances such as these have brought computing power previously available only in room sized computers to thousands of desktops across America. This, in turn, has increased the productivity of U.S. firms, providing jobs at home and larger markets for American products abroad.

Although my company provides a great deal of added value to the memory chips we use, we remain dependent upon the memory chip manufacturers themselves to provide advances in DRAM technology. Presently, Japanese firms are ahead of American firms in this regard. Although the industry standard for memory vendors is the 256K chip, the cost of 1Mbit chips is decreasing rapidly. We expect that within a year the 1Mbit chip will become the industry standard. Unfortunately, at present, Japanese firms are the only manufacturers of this type of DRAM.

Toshiba Corporation presently accounts for 50% of the world's production of 1Mbit DRAMS. They are our major supplier of this component, as they are one of the few firms in the world that can supply us with the quantities we need. Toshiba is also a major source of the 256K chips we use in our products. There are alternative American suppliers of this type of chip, and we have bought from them in the past. Unfortunately, the quality of these chips has been, at best, spotty. Our customers want and need reliable products. Until American companies can meet the quality standards set by their Japanese counterparts, we will not be able to make large scale purchases from them.

A total ban on the importation of Toshiba products would have a crippling impact on my business. With Toshiba's production of 1Mbit chips removed from the market, the prices charged by the remaining Japanese manufacturers is sure to skyrocket. We, in turn, would be forced to raise our prices significantly. This would lead to lower sales, shrinking employment opportunities and a slowdown in the spread of leading edge technology through American businesses and universities.

Even more worrisome, we may not be able to get 1Mbit chips at any price. Japanese manufacturers in the past have shown a tendency to fill the requirements of their Japanese customers before allocating excess production to overseas markets. Without these chips, several of our product lines would have to be discontinued.

In this environment, Japanese companies would be encouraged to enter a market which American firms now dominate. American add-in memory vendors like ourselves have beaten back foreign firms that have attempted to provide memory boards for American computer companies. The only Japanese company that sold to the same market we do has recently discontinued its sales effort in the face of strong U.S. competition. With an assured supply of needed parts, however, Japanese firms would soon dominate the add-in memory market.

It would not be only our sales effort in the U.S. market that would be put in jeopardy. Over 25% of our sales last year came from overseas accounts. Our products have been so well received in Japan that we plan to open an office there later this year. It would be ironic that an industry such as ours, one of the few which imports "raw materials" (DRAMs) from Japan and returns it as a finished product, could be crippled by sanctions against a Japanese firm.

Toshiba deserves to be punished for its transgressions. We do not. I hope you will be selective in your punishment of Toshiba. I implore you to follow the lead of the Senate in exempting from an import ban products, such as DRAMs, that are critical to the success of the U.S. manufacturing industry.

Sincerely,

John Stadler
John Stadler
Executive Vice President
Clearpoint, Inc.

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2068855880 TDRN REDMOND WA 12 07-16
1230P EST 12132 EST


western union

Telegram

▶ ROBERT J LEONARD
U.S. HOUSE REPRESENTATIVES
1102 LONGWORTH
HOUSE OFFICE BLDG
WASHINGTON DC 20515

JUL 16 1987

REGARDING HR2698, HR2241
WE ARE OPPOSED TO ANY SANCTIONS AGAINST TOSHIBA JAPAN.
JOHN COCHRAN, JACK HODGES AND PENNY WALLINGER, COMPONENTS WEST

12132 EST

IPMPCMX RSM

COPITRENDS

TOSHIBA
Authorized Sales & Service

July 10, 1987

The House of Representatives
Washington, DC 20513

Dear Representative,

I thought of you this July Fourth as I sat with friends and enjoyed our Day of Independence.

I also thought about what we have had to do in order to maintain our freedom over the years.

As you well know, Vietnam Veterans have been receiving a lot of press lately through movies, books, talk shows and magazine articles. A great many of my friends are Vietnam Veterans, as well as myself, and we have discussed our jobs and what we have had to go through--both in Vietnam and in the United States.

It seems at times that the United States government is uninterested in what we Veterans have had to do in an attempt to put our lives back together.

I have worked many long, difficult hours to build an organization that I am very proud of. I only wish I felt that my government was helping it to succeed instead of tearing it down.

As a U.S. consumer, I am quite concerned about the legislation your committee is considering. The effects of a ban on the import of TOSHIBA PRODUCTS would be quite significant.

The ability to support, enhance and expand previously purchased products would be jeopardized.

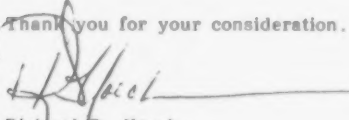
The availability of high quality consumer and industrial products could be reduced, thus decreasing the competitive benefits of such availability.

TOSHIBA directly employs approximately 4,000 U.S. Citizens in this country and through several thousand Toshiba Dealers throughout the U.S.. Tens of thousands of jobs may be affected or eliminated. The vast majority of these jobs are in Sales, Marketing and Maintenance of TOSHIBA PRODUCTS. Thus, many thousands of U.S. jobs would be jeopardized due to the negligence of a few individuals.

It seems to me that TOSHIBA has already taken some harsh measures as a result of the Toshiba machine incident and the banning of imports on ALL TOSHIBA PRODUCTS would serve NO USEFUL PURPOSE.

I urge you to consider seriously this situation as you discuss any proposed legislation, and reach an intelligent decision to VOTE AGAINST this HARMFUL legislation.

Thank you for your consideration.

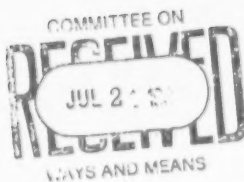

Richard D. Moeck
President

Copitrends Inc.
14540 Keswick Street
Van Nuys, CA 91405



Dallas Semiconductor

(214) 450-0400 • 4350 Bertwood Parkway South • Dallas, TX 75244-3219



July 14, 1987

Robert J. Leonard
Chief Counsel
Committee on Ways and Means
U. S. House of Representatives
Room 1102 Longworth House Office Building
Washington, D. C. 20515

Reference: Legislation to prohibit importation of products made by
Toshiba Corporation and Kongsberg Vapenfabrik company

Dear Sir:

Dallas Semiconductor manufactures and sells memory systems to both the domestic and international markets. These memory systems constitute one third of our annual sales volume. Toshiba is the primary source of certain components required to produce this product. To our knowledge, there are only two sources in the world for these components; and the other source is currently our secondary supplier. Given adequate time, Dallas Semiconductor could take steps which would allow us to eliminate Toshiba as a supplier; in a manner which would not have a severe impact on either our operations or those of our customers. Our current best estimate of the time required to phase out the supply of Toshiba components in an orderly and efficient manner is six months.

The management team at Dallas Semiconductor understands severe damage to our national security resulting from Toshiba's equipment sale to the Soviet Union. We trust that the Committee and Congress will give the proposed prohibition due consideration and take appropriate action.

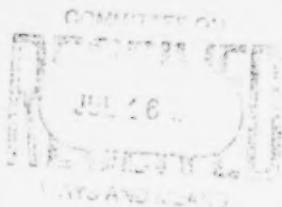
The only point we wish to make is that our company, like countless others, needs a reasonable period of time to adjust to any prohibition on the importation of goods manufactured by Toshiba.

Sincerely,

Jeff Hannon
Director,
Materials & Facilities

Dataproducts Corporation
6200 Canoga Avenue
P.O. Box 746
Woodland Hills, CA 91365-0746
(818) 887-8000

 **Dataproducts.**



July 10, 1987

Hon. Dan Rostenkowski, Chairman
House Committee on Ways & Means
1102 Longworth HOB
Washington, D.C. 20515

Dear Chairman Rostenkowski:

I am writing to express our concern over the direction that Congress seems to be taking in the Toshiba case. We recognize and abhor the damage done to our national security by the activities of Toshiba and Kongsberg, but some of the legislation being proposed would seem to create additional damage; this time to U.S. businesses.

Dataproducts has 3 printer manufacturing plants located in California, Connecticut and New Hampshire, that employ 2,109 persons and two of our major printer lines use products built by Toshiba or one of its subsidiaries. Although we have been doing business with this company for years, we are now uncertain as to their ability to continue to supply us in the future, and our customers are expressing their concern over our continued ability to supply them. Ironically, one of the two items of equipment we are importing is a primary product of our own U.S. R & D.

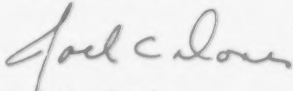
Although we do not know what information may come out of the hearings to be conducted by Ways & Means, we would like to suggest that the Committee consider the harm any legislation prohibiting Toshiba imports would have on U.S. manufacturers as well as the sanctity of existing contracts. Seeking alternate sources is not always a viable alternative; in our own case it is highly likely that we would lose precious time, money and undoubtedly customers, if we are forced to change suppliers. Loss of Toshiba as a supplier would, of course, affect our inventories, contracts and customer delivery commitments. Moreover, our European customers would have but another example of the unpredictability and unreliability of U.S. suppliers.

Hon. Dan Rostenkowski, Chairman
July 10, 1987
Page Two

I am certain the Committee is aware of the economic pressures American business already faces in coping with international competition; please don't make it any harder for us to do business than it already is.

Your earnest consideration of this issue is urgently requested.

Respectfully,



Jack C. Davis
Chairman of the Board, President
& Chief Executive Officer
DATAPRODUCTS CORPORATION

cc: Hon. Robert T. Matsui, Calif.
Hon. Pete Stark, Calif.
Hon. William M. Thomas, Calif.

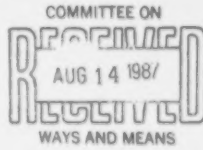
Hon. Barbara Kennelly, Conn.

Hon. Judd Gregg, New Hampshire

Joseph K. Dowley, Chief Counsel
House Committee on Ways & Means

DBS DeCoursey
DBS Business Systems
DBS Of Iowa, Inc.

TOSHIBA
Gestetner
 Copier Specialists



The Committee On House Ways
 And Means Subcommittee For Trade

Dear Sir;

I am the General Manager for the DeCoursey Business Systems Of Iowa located in Des Moines Iowa. Our business is a small independent business equipment and systems dealership which has been in operation for six years.

Our business is dependent on the free flow of products from throughout the world. Proposals currently before Congress to place tariffs and restrictions on imported products would seriously affect our business and its 14 employees.

I urge you to consider the ramifications to small businesses and their families which will result from excessive tariffs and restrictions on foreign products.

Solutions are needed, but such solutions must solve the problem not create additional hardship upon your constituents. Please respond by stating your support for small business and free trade.

Respectfully

Len Miller
 Gen.Mgr.3

1301 Locust, Des Moines, Iowa 50309
 515/288-8592

Copiers • Duplicators • Offset Printers



Diversified Copier Products
Diversified Copier Products
Diversified Copier Products
Diversified Copier Products



July 10, 1987

Dan Rostenkowski
Illinois 8th District
The House of Representatives -2111 RHOB
Washington, DC 20515

I understand that your committee is considering a ban on the import of Toshiba products into the United States of America. The effects of such a ban on the United States workforce and economy may not be obvious and should be seriously considered:

Toshiba directly employs approximately 4,000 United States citizens in this country and through several thousand Toshiba dealers throughout the United States tens of thousands of jobs may be affected or eliminated. The vast majority of these jobs are in sales, marketing and maintenance of Toshiba products. Thus, many thousands of United States jobs would be jeopardized due to the negligence of a few individuals.

In excess of \$3.2 billion worth of Toshiba products are delivered in the United States each year.

Toshiba Corporation is a major importer of United States made products into Japan and has been making many efforts to reduce the United States/Japan trade deficit. We should be trying to build relationships with them, not destroy what already exists.

On a more personal level, my livelihood (and those of my employees) could be seriously jeopardized if restrictive legislation were passed.

Toshiba Corporation has already taken harsh measures on the Toshiba machine issue.

The chief executive officer of Toshiba machine company was forced to resign his position.

Several key management people of Toshiba machine company were also forced to resign.

The divisions of Toshiba machine company that engaged in exports to communist countries have been eliminated.

I sincerely hope, that as an elected official of this country, you will investigate and study this situation thoroughly and then take the appropriate action and vote against any ban of Toshiba products. Again, that action will protect the jobs of thousands of Americans and ensure free trade, a concept on which this country is based.

Thank you for your consideration.

Steve C. Elwell
Steve C. Elwell
President

9771 Clairemont Mesa Blvd. Suite A. San Diego, CA 92124. (619) 565-2737

Eden
INDUSTRIES
July 16, 1987

The Honorable Dan Rostenkowski
Illinois 08th District
The House of Representatives - 2111 RHOB
Washington, DC 20515

Dear Mr. Rostenkowski,

This communique has to do with Toshiba America as we have been informed of their recent difficulties and its business here in the United States. I, for one however, feel very strongly that they have taken appropriate action in an effort to somewhat redeem themselves for the mistake made which, as we understand it, had nothing to do with Toshiba America. We have been advised they have done the following in order to ensure this situation will not happen again.

- Directed American counsel to conduct an independent investigation of the matter.
- Developed a compliance program to be enforced in all Toshiba group companies.
- Pledged to secure the discharge of any officers or employees who knowingly participated in the diversionary activity.
- Eliminated all Toshiba Machine exports to all communist countries.

While as an American I am hurt by what has been done, I feel strongly that to penalize the innocent is somewhat like cutting off your nose to spite your face. Our company does a small amount of business with Toshiba America but we are aware that a great number of people in Orange County would be displaced as a result of a closedown of their business.

I should add that I personally spent four years in the service during World War II, much of that time in action in the Pacific. I say this only to reinforce my point that unfair action as is the intended case here is not, in my estimation, the way the situation should be handled.

Thank you for your interest and for hopefully taking action to correct what I sincerely feel is an unfair decision.

Sincerely,

[Signature]
D. A. Rosenberg
President

cc: Dennis Everole, Toshiba America

4000 BIRCH STREET, SUITE 114 • NEWPORT BEACH, CA 92660 • (714) 864-7728

STATEMENT OF
RICHARD J. EGAN, PRESIDENT
EMC CORPORATION

EMC Corporation is a Massachusetts based manufacturer of computer products. Our 1987 sales will be approximately \$120-130 million, and we employ approximately 600 people in 20 U.S. states and Puerto Rico and six countries overseas. We welcome this opportunity to present our views on the proposals now before Congress to impose sanctions on products specifically sold by Toshiba Corporation.

Like you, we were outraged by the international violation of Japanese export law by Toshiba Machine Corporation and the resulting compromise of U.S. and Japanese national security. We are deeply concerned with protecting allied defenses against Soviet Bloc military capability. But we are also deeply concerned that no action should be taken which is injurious to the U.S. computer industry, because we strongly believe that such injury would not be in the U.S. national security interest, nor in the interests of preserving U.S. jobs.

Our first and foremost concern is that importation of one megabit dynamic RAM chips made by Toshiba Corporation should be free, unrestricted, and unencumbered by special import license procedures. We are concerned in particular about these devices because dynamic RAMs are essential components to all computers, being the primary component of the computer's main memory system.

New computer applications demand larger and larger amounts of main memory, which must occupy less space, operate at faster speeds, and consume less power than previous generations. One megabit dynamic RAMs (1Mb dRAMs) are the newest and most efficient devices of this type currently on the market, and hence have been designed into the coming new generation of computers in vast numbers. They have also been designed into some current-generation computer systems. Constriction of the availability of these devices would stall development of the U.S. information processing industry and endanger thousands of U.S. jobs.

How important is Toshiba to worldwide 1Mb DRAM production? At present, we calculate that Toshiba Corporation is supplying over half of the commercially available product in the world. Although this production level will ramp up, Toshiba's market share will naturally decline over time; nonetheless, Toshiba should continue to be a key producer in this market place for at least three or four more years, when the next generation of dRAM gains ascendancy.

Many industry analysts, such as Dataquest, have predicted a worldwide shortage of 1Mb dRAMs in 87Q4 because the rate of growth of worldwide demand for this device is expected to exceed the rate of growth of worldwide production capacity. This analysis assumes continued availability of devices from all suppliers at steadily increasing rates. We at EMC believe that the shortage will be felt even earlier. Not only are several producers of this part behind schedule in their production ramps, but MITI has limited the number of 1Mb dRAMs to be produced. These factors are coinciding with a higher-than-expected rate of demand, hence we are already seeing shortages in the 1Mb dRAM market. Therefore, if unilateral constraints are placed upon the ability of U.S. computer manufacturers to obtain 1Mb dRAMs from Toshiba Corporation, there will be profound shortages of these devices in the U.S. and therefore, we think, great abundance of these devices in other markets of the world.

What would be the effects on the U.S. computer industry of this kind of market imbalance? We at EMC have examined the potential results of two kinds of sanctions which might be applied to 1Mb dRAM (as well as other products) made by Toshiba Corporation, and have found both to be injurious to the U.S.

First, if an import ban on Toshiba products were to be enacted, then clearly there would not be sufficient supplies of 1Mb dRAMs coming into the U.S. to meet total demand in the market pace. Computer manufacturers

therefore would be forced into one of two strategies: (1) to limit manufacture of that new generation equipment which uses the 1Mb dRAM, thereby giving an advantage to Japanese computer manufacturers; or (2) to buy and assemble their products offshore, importing finished good assemblies and, in the process, exporting thousands of American manufacturing jobs and millions of trade dollars. Either of these would clearly be injurious to the U.S.

Second, if legislation were enacted which required that penalty duties be applied to 1Mb dRAM imports from Toshiba Corporation, then the net effect would be to raise the comparative cost of those American-manufactured goods which utilize these devices. As noted previously, there are not enough devices available in the world marketplace for American manufacturers simply to decide not to use Toshiba 1Mb dRAMs at all, and so once again, manufacturers would be driven to manufacture their products offshore in order to remain competitive. This would cost the U.S. thousands of manufacturing jobs and millions of trade dollars.

The effect on EMC would be even more dramatic than on most computer companies. Our past success has been based upon our ability to introduce and manufacture a constant flow of new products which take advantage of the latest semiconductor technologies. Externally imposed obstacles to our ability to bring new products to market, especially at this critical point in our growth, would cause us severe hardship.

A wide range of current product offerings incorporate one megabit dRAMs, and our future product plans will require even larger number of these devices. Constraints upon our access to these chips would make it likely that our company, customers, vendors, stockholders, and most important, hundreds of our employees, could suffer dire consequences.

We encourage Congress to consider carefully the "hidden" U.S. victims, such as EMC, of legislation which seeks to ban or penalize imports from Toshiba Corporation. We strongly believe that action is required to assure that export violations such as those committed by Kongsberg Vaapenfabrik and Toshiba Machine Corporation never occur again, but such actions should not be at the expense of the U.S. computer industry.

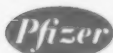
The key points of our recommendations for action include the following:

(1) Any sanctions which might be applied should only be applied to Toshiba Machine Company and Kongsberg Vaapenfabrik. No evidence has been brought forward to our knowledge which suggests that Toshiba Corporation was aware of its subsidiary's action. We are concerned that an international precedent will be set which could eventually be harmful to U.S. companies if, in this case, a parent corporation is held accountable for its subsidiary's independent actions.

(2) If sanctions are applied to Toshiba Corporation, then these must be constructed very carefully to avoid injury to innocent and critical segments of U.S. industry. As demonstrated earlier, certain electronic components such as one megabit dynamic RAMs should clearly be exempted from any sanctions.

(3) We believe it is essential that any exemptions to sanctions be constructed in such a way as to avoid cumbersome import licensing procedures or case-by-case exemptions. In our particular case, the length of time required to obtain such approvals would likely exceed the entire design cycle of the product in which the component would be used, thus making the exemptions meaningless as a practical matter.

We appreciate your consideration. While we would not purport to claim that we speak as a disinterested observer, we believe that the views we have enunciated above reflect those of the overwhelming majority of the computer industry and are in the best interests of the American people generally. We are confident that the Congress will deal with the issues in a manner which will address the real long-term concerns, and fashion a remedy which will assure that the past outrages will not be repeated, at the same time ensuring that those remedies are not harmful to our own economy, defense, and people. We vigorously urge defeat of any legislation contrary to the recommendations we have outlined above.



PFIZER INC. 235 EAST 42nd STREET, NEW YORK, N. Y. 10017-5755

EDMUND T. PRATT, JR.
Chairman of the Board

July 15, 1987

The Honorable Sam M. Gibbons
Chairman
Subcommittee on Trade
Committee on Ways and Means
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I am writing on behalf of the Emergency Committee for American Trade (ECAT) in response to your request for comments on proposed restrictions on sales in the United States of products of the Toshiba and Kongsberg Corporations. Our members are distressed about the damage to our national security caused by the sales of certain machinery and related software to the Soviet Union by these two companies.

As you know, the 60 members of ECAT are heavily engaged in international business. Their annual worldwide sales approximate \$700 billion, and they have over 5 million employees.

Our comments on the proposed import restrictions against the products of the Toshiba and Kongsberg corporations are (1) that because the export control violations at issue are COCOM violations, that a multilateral response be developed through COCOM, (2) that the United States should be compensated for the additional defense expenditures that will be incurred because of the illegal sales to the Soviet Union, (3) that prospective U.S. import restrictions should be crafted against the products of Toshiba and Kongsberg in a manner that will not inflict economic harm to the U.S. economy, (4) that as clear as possible rules and regulations be issued in a manner that will be administrable, and (5) that import restrictions be in the form of amendments to the omnibus trade bill.

I would like to elaborate a bit on each of the above points, but before doing so would like to note that we have heard from several of our member companies that if the proposed import restrictions are not drafted in a way which will permit the importation of Toshiba products that are critical to continued U.S. production of a variety of goods, then whole U.S. production lines and facilities would have to be shut down for periods of up to two years while alternative components and supplies are developed. This would be a devastating result for the competitiveness of our member firms in the U.S. and foreign markets. In many instances Toshiba components are unavailable elsewhere. Should you desire, we could provide you with a number of examples.

Coordination with the COCOM

Because the Toshiba/Kongsberg violations of export control measures affect not only the national security of the United States but also that of our COCOM partners, we urge that the U.S. response to the greatest extent possible be coordinated with the other COCOM members.

The reach of the sanctions should not extend to parts used in products of foreign subsidiaries of U.S. companies. To extend the reach of U.S. sanctions against Toshiba and Kongsberg to overseas subsidiaries would be considered an unwarranted extraterritorial reach by the U.S. government.

Compensation

As noted above, ECAT supports active government efforts to negotiate compensation for additional defense expenditures necessitated by the illegal sales of machine tools to the Soviet Union. We suggest that the amount of compensation to be sought be set by the Office of Management and Budget in consultation with the Departments of State, Defense, and Commerce. Discretion should be provided the President to determine what is an adequate final settlement.

Narrow Import Restriction List to Avoid Harm to U.S. Economy

There are several ways to limit an import restriction list in order to avoid damage to the U.S. economy. One would be to limit the import restrictions to Toshiba machine tools and related Kongsberg software since they were the products that compromise U.S. national security. Another way would be to limit the list to finished Toshiba consumer products that are unrelated to the U.S. productive process. Yet another way would be to exclude from the restricted list any product essential to the production of U.S. manufacturers.

While we have no quarrel with punitive measures against Toshiba and Kongsberg, it must be recognized that Toshiba markets many proprietary components to U.S. industry. Toshiba also has established a number of joint ventures with U.S. firms and has a large number of other interdependent business links in the United States, including a number with ECAT members. To impose U.S. import restrictions on essential Toshiba components would unjustifiably penalize U.S. companies and their workers. In no instance should the import ban extend to products upon which U.S. manufacturers are dependent.

Rules, Regulations, and Administration of Import Restrictions

The Garn amendment to S.1420, the Senate omnibus trade bill, attempts to avoid the negative impact of broad import restrictions by a series of exemptions. ECAT applauds the intent of these exemptions, but considers them extremely difficult to administer and, therefore, unlikely to be effective in allowing a continued flow of trade between American firms and Toshiba. Even if key terms like "essential to U.S. production" and "defense articles" were more precisely defined, these exemptions are so complex as to require an import licensing system for their implementation. As a practical matter, such case-by-case import licensing would be tantamount to a ban on Toshiba products for most U.S. companies. If the Congress, nevertheless, chooses to resort to broad import restrictions, such exemptions should be made mandatory rather than discretionary, as in the Garn amendment, and should include any and all products a U.S. manufacturer might require for inclusion in finished products manufactured in the United States. Only with such an exemption will the counterproductive impact of broad import restrictions upon American firms and the American economy be effectively avoided.

Before imposing sanctions, the President should be required to consult with U.S. users and consumers of the affected product. In addition, the President should be required to notify Congress and the consuming industries in sufficient time to allow them to comment on the sanctions. Indeed, the Congress may want to consider postponing any import ban for a period sufficient to allow time to develop an adequate exemption list and to negotiate a common approach with our COCOM partners.

We also recommend that rules and regulations should provide that sanctions should not apply to contracts, contract renewals and purchase order agreements entered into prior to imposition of import sanctions. Also, U.S. commercial contracts should have the same waivers as those afforded to the U.S. government.

The Toshiba/Kongsberg Provisions should be Amendments to the Omnibus Trade Bill

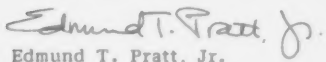
Although ECAT seeks revisions in the Garn amendment as outlined above, we believe that the omnibus trade legislation passed by the House (H.R.3) and pending before the Senate (S.1420) are the appropriate legislative vehicles for dealing with the problem of responding to the Toshiba-Kongsberg violation, and that the Garn amendment offers a reasonable basis for developing a final provision in the House-Senate Conference on these bills. We urge the Committees of jurisdiction in the House to state their intention to resolve this matter in Conference on the omnibus trade bills in order to help stave off separate bills or floor amendments.

Finally, ECAT urges the Congress to consider this issue not in isolation, but in the context of the many other foreign and national security policy restrictions that have been imposed on U.S. international trade in recent years. The imposition of import restrictions against Toshiba and Kongsberg products will constitute yet another opportunity for foreign competitors to portray U.S. firms as unreliable trading partners encumbered by an ever-increasing accumulation of unilateral U.S. restrictions and requirements.

We also want to note that an errant employee or agent or distributor of a U.S. firm or of a U.S. product could violate U.S. export control law or CoCom regulations as did the Toshiba/Kongsberg officials. Should this occur, it is possible that foreign governments might react as is proposed in the import ban legislation. We should, therefore, be cautious in our reactions since we will be establishing a precedent.

We believe that while implementation of our recommendations will in no way detract from appropriate retaliatory measures against the onerous Toshiba and Kongsberg sales to the Soviet Union, they will minimize the prospects for consequent damage to our own economy.

Sincerely,


Edmund T. Pratt, Jr.

July 9, 1987

Hon. Dan Rostenkowski
Illinois 8th District
The House of Representatives - 2111 RHOB
Washington DC 20515

Hon. Dan Rostenkowski:

As a citizen of this country, I am greatly concerned by the actions being taken by our elected officials with regard to the Toshiba Machine Company issue. It is obvious to me that members of Congress are acting without sufficient information and without realizing the impact of their actions on this country and their constituents. To propose actions against Toshiba Corporation for the business dealings of Toshiba Machine Company is ridiculous.

As someone who has a say in this matter, you should be aware that.

Toshiba Corporation is only a major stockholder of Toshiba Machine Company and had no involvement in the management of that company.

When this matter was discovered, the Japanese government took action against Toshiba Machine Company and certain employees of that company as appropriate.

Toshiba Corporation, as a major stockholder, investigated the situation on their own and as a result forced the resignation of the Chief Executive Officer of Toshiba Machine and the termination of several other management employees who were involved.

Toshiba Corporation is an extremely conservative company and has had an excellent working relationship with the U. S. Government and many large U. S. companies (General Electric, 3M, and Westinghouse to mention a few) over the past forty years. Toshiba Corporation has been horrified and embarrassed that one of their holdings has involved themselves in this activity.

The top two officers of Toshiba Corporation resigned due to the embarrassment caused by this action, as the ultimate form of apology (as recognized in the Japanese culture). The company has enlisted the services of an outside (U. S.) consulting firm to fully investigate this matter and establish strict controls that will prohibit any possible recurrence.

Toshiba Corporation has been increasing manufacturing facilities in the U. S. over the last several years and has plans to expand this effort in the future, thus creating many jobs in the U. S. for Americans.

The affects of a ban on the import of Toshiba products on the U. S. work force and economy has been downplayed.

Toshiba directly employs approximately 4,000 U. S. citizens in this country and through several thousand Toshiba dealers throughout the U. S., tens of thousands of jobs may be affected or eliminated. The vast majority of these jobs are in sales and marketing of Toshiba products.

In excess of \$3,200,000,000 worth of Toshiba products are delivered in the U. S. each year.

Toshiba Corporation is a major importer of U. S. made products into Japan and has been making many efforts to reduce the U. S./Japan trade deficit. We should be trying to build relationships with them, not destroy what already exists.

Instead of taking negative action that may have devastating effects on innocent parties. Congress should direct their efforts toward:

- Fully investigating the actions of Toshiba Machine Company and it's employees and taking appropriate actions against involved and responsible parties.

- Working with Toshiba Corporation on a plan of action that will provide the U. S. with the necessary technology to overcome the current problem.

- Developing a system of controls and audits that help prevent future occurrences.

- Working toward increased manufacturing in the U. S. that will create even more jobs and not eliminate progress already made.

I sincerely hope that as an elected official of this country, you will investigate and study this situation thoroughly before taking the appropriate and voting against any ban of the products of Toshiba.

Respectfully,

K. Eversole

Kelly Eversole
28725 Peachblossom
Mission Viejo, CA 92692

Toshiba Submissions For the Record

IDENTICAL LETTERS TO ABOVE SUBMITTED BY:

Mr. David Simpson, Jr., Mission Hills, Calif.
Ms. Deana Finders, Simi Valley, Calif.
Ms. Vicki Eversole, Mission Viejo, Calif.
Ms. Pam Finders, Simi Valley, Calif.
Ms. Sue Liebman, Redondo Beach, Calif.



**Electronic Crystals
Corporation**

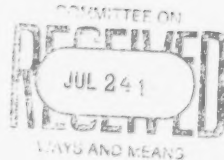
1151 Southwest Boulevard
Kansas City, Kansas 66103

TWX 910-
743-4170

Phone (913)
262-1274

July 22, 1987

HOUSE WAYS AND MEANS COMMITTEE
1102 Longworth House Office Bldg.
Washington, D.C. 20515



The enclosed clipping from July 20, Electronic News makes me shudder.

It is high time people in this country learn to be self sufficient. We have become so dependent on the far east that we can allow our national security to be endangered?

I for one say Toshiba should be banned from sales in this country.

I operate a small crystal manufacturing company, with 75% of our sales to the DoD, we have been hurt for years by Japanese imports. The crystal industry is hurting because the greed of the manufacturers in this country, importing and reselling parts cheaper than we can buy raw materials in this country. ECC advertises 100% American Made products, we are proud of that fact.

Our prices are higher, and we have lost money for 5 years. I have no idea how long we are going to be able to survive, but I will not become dependent on the Japanese just to put money in my pocket. I will go down with PRIDE knowing that I didn't allow this type of technology to disappear from the United States.

I am sure you have heard it said "If anyone wanted to go to war against the United States, they would bomb Japan and the U.S. would be defeated. I believe this is truer than we would like to believe.

I would like to be on record as 100% for import bans against these countries.

Sincerely,

Donna Brazelton
Donna Brazelton
President

Toshiba Ban Seen Hurting U.S. Firms

By JACK ROBERTSON

WASHINGTON — Representatives of Apple Computer and the Computer and Business Equipment Manufacturers Association last week told the House Ways and Means Committee that any import ban on Toshiba products could be "devastating" to U.S. firms which integrate Toshiba-made peripherals into their systems.

James Johnson, Apple's director of government affairs, said Toshiba supplies a printer made to Apple's specifications. "It would take a minimum of 2 years to qualify another vendor and

bring them to the point of technological compatibility," should Toshiba imports be banned in this country in retaliation for a Toshiba affiliate's illegal machinery shipment to the Soviet Union, he said.

The shipment of equipment by Toshiba Machine Co. was in violation of export regulations set by the Coordinating Committee (CoCom), an alliance of trading partners which takes in the NATO allies and Japan.

Joseph Takser Jr., CBEMA counsel, stressed that "sanctions on the parent Toshiba corporation... could bring unnecessary harm to American business."

He warned that barring all Toshiba products might invite retaliation against U.S. subsidiaries overseas. "A primary concern is with foreign governments that could increase the liability of American corporations by imputing to them the actions of their foreign subsidiaries," he said.

Telecommunications firms, including Audiovox Corp., Advanced Telecom and CompuPhone, testified that a total ban on Toshiba imports would cripple their operations by depriving them of essential products. Bruce

Continued on Page 14

Toshiba Ban Seen Hurting U.S. Firms

Continued From Page 12

Peale, president of Advanced Telecom, a Pittsburgh-based interconnect distributor of Toshiba products, said such a ban "would put me out of business."

The Senate has already amended the trade reform bill to bar Toshiba imports for 2 to 5 years, exempting components and shipments on contracts signed prior to May of this year (EN, July 6). The House committee is considering similar legislation, although none of the House bills provide for any major exemptions, thus sparking the concern of computer and telecommunications firms.

Congressional sources believed the House panel may mark up and vote on legislation banning Toshiba imports, but the bill would likely not get to the House floor before the Senate passes its version of the trade reform bill. The measures would go to a Senate-House conference committee, where the ultimate fate of any Toshiba import ban would be decided.

Sources believed the Ways and Means Committee would only vote on a separate Toshiba bill to put added pressure on Japan and to strengthen the hand of House negotiators in the conference panel, if necessary.

The hearing last week was also used by export control proponents to criticize other provisions of the trade reform bill which greatly relax U.S. export curbs and remove many restrictions on re-export controls over shipments from NATO countries and Japan.

Richard Perle, former Assistant Secretary of Defense and now a fellow of the American Enterprise Institute, charged the Toshiba machinery shipments to the Soviet Union proved con-

clusively how damaging any relaxation of U.S. re-export curbs could be.

"By shipping American technology with reckless abandon to any CoCom country, as the House (trade) bill would authorize, there will be countless cases like Toshiba," Mr. Perle predicted. "The House bill should be called the 'Soviet Technology Relief Act of 1987'."

CBEMA used the hearing to support the export control revisions in the trade bill. Edwin Derwinski, Undersecretary of State for security affairs, said CoCom would ultimately be strengthened by the case, as Japan and other countries realize the need to enforce more rigorous controls.

He said the Reagan Administration "is disappointed so far that Japan has not moved more aggressively in strengthening its own export control system. More steps are needed before we are satisfied."

The hearing produced a rare letter of apology to Congress by Joichi Aoi, the new president of Toshiba Corp. "I extend my deepest regret and apology to the Congress and to the American people for the action of our subsidiary company. It is reprehensible to our nation, our company and to me personally. The grief and outrage our company has experienced over the incident have resulted in many changes being adopted to correct this situation," the letter said.

In Tokyo last week, Mr. Aoi told a press briefing that Toshiba was still hoping to win the Air Force's potential \$100 million award for kneetop computers.

In Washington, the Air Force last week said no decision had yet been made on the kneetop computer bid.

Executive Business Machines, Inc.

P.O. Box 3660 • Hickory, North Carolina 28603 • (704) 294-2811

July 10, 1987

Honorable Congressman:

I understand that your committee is considering a ban on the import of Toshiba products into the U.S. The effect of this move would place the jobs of my 15 employees in jeopardy.

I have been selling Toshiba products for years. Toshiba makes some of the finest copiers and fax machines in the world. I do not need to tell you that banning Toshiba copiers and facsimile machines would cost the U.S. over 4,000 lost jobs. These 4,000 lost jobs do not include my small dealership and other dealerships like it.

Toshiba and Japan have already taken major steps to punish the persons that sold the secrets to the Russians. I feel that those persons involved should be punished for their crimes, but Toshiba America was not involved and should not be blamed and should not be forced out of business.

I hope that you investigate and study this situation. I am sure that if Congress bans Toshiba from U.S. markets your action will cost local area jobs and future votes.

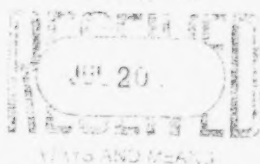
Again, I urge you to vote against legislation that would ban Toshiba products. Congress and only Congress can save my employees jobs.

Very truly yours,



Van Fisher, President
EXECUTIVE BUSINESS MACHINES

VF/jl



July 13, 1987

Honorable Dan Rostenkowski, III
Committee on Ways and Means
1102 Longworth HOB
Washington, D. C. 20515-6348

Dear Sir:

In regard to proposed sanctions on U. S. imports from Toshiba Corporation and its affiliated companies, careful consideration should be taken to avoid harming U. S. producers in critical industries.

Gemini Research is a producer of semiconductor manufacturing equipment for the domestic and international electronics industries. Two key components of our systems, quartz and graphite products, are absolutely essential to the production of our equipment and subsequently essential to the production of integrated circuits. Our firm currently is dependent on Toshiba Ceramics, an affiliate of Toshiba Corporation, as a major supplier of these components. Although vendors of somewhat similar products exist elsewhere, the current quality and capacity requirements of the semiconductor industry force us to rely on imports from Toshiba Ceramics to supply a large portion of our production needs. If this supply of critical components is interrupted, the result ultimately will be an interruption in the production of integrated circuits by our major customers, some of whom manufacture semiconductors in your state.

Gemini Research, its employees, and its customers urge you to draft and enact legislation which avoids such damaging impact on domestic manufacturers. At the very least, some provision of the sanctions against Toshiba should clearly exempt imports of parts and components essential to domestic production of critical goods and machinery, and should further provide a mechanism to secure such an exemption which creates neither excessive delays nor burdensome administrative costs. Although Gemini Research supports the concept of economic sanctions in some form against Toshiba, please be aware of the potential damage this can do to U. S. producers who serve critical industries, and provide for such producers in the final legislation.

Sincerely,

GEMINI RESEARCH

James McDiarmid
James McDiarmid
President

JMcD/g

GEMINI RESEARCH 49026 Milmont Drive, Fremont, CA 94538 415 490-7782 TWX 910 3817056

July 9, 1987

Dear Congressman:

Please stop this "KILL TOSHIBA" madness!

Obviously, the events of the last few weeks regarding Toshiba selling machinery to the Russians is being lead by emotions rather than sensibility. Whether you are aware of it or not, you will destroy the lives of hundreds of Americans if you ban the imports of Toshiba products for any period of time.

I am one of nearly 5,000 AMERICANS who are employed by Toshiba in this country and I do not understand why my government is attempting to destroy the livelihood of thousands of people for what is the actions of a few irresponsible Japanese in a small division of this fine, responsible, multinational corporation.

As you know, the worst injury to our national defense in decades came from one of our own - John Walker - but we did not replace the entire U.S. Navy because of the Walker infection! Neither should we destroy the Toshiba Corporation because they suffered from an internal infection.

I am an employee of TMA (Toshiba Machine of America) which is the U.S. distributor of Toshiba machine products in North America. The major portion of our company are American employees with a small core group of Japanese that are on a revolving management program from the home office in Japan. If you ban Toshiba imports you will be cutting off our life line! Without product, TMA will have no need for the American sales force, American secretaries, American service engineers, American training personnel, American management personnel and on and on. This says nothing of the hundreds of American corporations that depend upon our machinery to keep them in business, and the rep organizations that depend on the sale of Toshiba machine for their livelihood.

As you can see, Congressman, the threads of industry have woven us into a world of international dependence upon each other and it is your responsibility to defend us all - not indiscriminately ban TV sets that, incidently, were made in the USA by a company with a foreign name!

I ask you to vote against any bill that bans Toshiba products on behalf of my family and the families of all Americans employed by Toshiba.

Sincerely,



Tim Glassburn
35W773 Burr Oak Lane
Dundee, Ill. 60118

The Honorable Dan Rostenkowski
The House of Representatives - 2111 RHOB
Washington DC 20515

I am concerned about the proposed legislation banning the TOSHIBA Corporation from doing business in the United States.

As I understand it, the ban is to punish Toshiba Corporation because employees of one of it's partially (50.8%) owned subsidiaries, Toshiba Machine, falsified documents so that they (Toshiba Machine, not Toshiba Corporation) could ship proscribed milling machines to the U.S.S.R.. It is also my understanding that these employees are under criminal indictment in Japan, and that the officers and board members of Toshiba Machine who had corporate responsibility for those employees have been terminated. As a result of the misconduct of Toshiba Machine employees, Toshiba Corporation's President and Chairman of the Board both resigned due to their poor business decision in acquiring majority interest in a company and then neglecting to place their own people on its Board of Directors.

It seems as though the Japanese government and Toshiba Corporation have done everything possible to correct a regrettable situation, yet our (U.S.) Senate and House of Representatives seem to feel that Toshiba Corporation should be subjected to cruel and unusual punishment.

I have never heard of a United States or an individual State policy of inflicting punishment on the parent because the child committed a crime (hang the father because the son committed murder), yet we (The United States) are about to punish a parent (Toshiba Corporation for the crimes of its cousins (the employees of Toshiba Machine)).

I don't believe that the U.S. has told the Navy or the Marine Corps that we can no longer use their services. Yet both of them have employees whom have committed far more grievous crimes against the United States (Walker and Longstreet). We did not ban England from doing business in the U.S. after the Philby incidents.

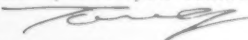
Toshiba Machine sold milling machines to one of the most advanced technological countries on earth, not military secrets, yet we are going to ban all commerce with their parent company and its other subsidiaries. The U.S.S.R. must have the capabilities of manufacturing milling machines, they did beat us into space. From personal experience, I can testify that their manufacturing skills are superior to ours in at least one field. The AK-47 is a better built weapon than our M-14 or M-16 series.

Banning Toshiba from the U.S. Market is like cutting off your nose to spite your face. Toshiba is a major importer of U.S. goods into Japan and has been making many efforts to reduce the U.S./Japan trade deficit. Toshiba America is a major employer in the U.S. (over 4,000 U.S. employees) and is indirectly responsible for many thousand more jobs throughout the U.S. in the sales, marketing and service of Toshiba products. Toshiba is a leading innovator in the electronics field and manufactures some of the best quality products to be found in the U.S. market.

It is not fair to the American consumer to limit his choices in product to the inferior. It is my understanding that the government would still be able to buy the best (Toshiba) if the ban went into effect, only the U.S. citizen would be hurt.

I sincerely hope that as an elected official of this great country that you can put the welfare of its citizens ahead of "Radio Bashing" publicity gathering, and vote against the ban of Toshiba products.

Thank you for your consideration,


Tom A. Kendig
Gray Associates, Inc.
575 Cooke Street
Honolulu, Hawaii 96813
(808) 524-4220

HARPER-WYMAN COMPANY



930 NORTH YORK ROAD HINSDALE, ILLINOIS 60521 (312) 325-3400 CABLE HARWYCO

July 14, 1987

Robert J. Leonard
Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
Room 1102
Longworth House Office Building
Washington, D.C. 20515

Subject: H.R. 2241 and H.R. 2658

Dear Mr. Leonard:

Please accept this as a written statement of objection to the use of Mandatory Sanctions against the purchase of all Toshiba products.

Toshiba Electronic Components, a division of Toshiba America, Inc. is a sole supplier to Harper-Wyman Company of micro-processor chips. Due to the nature of these chips, it would require over 1 year to identify and tool another source. Harper-Wyman would be subject to lost sales in this period of 5 to 10 million dollars with corresponding federal tax dollar reduction.

Since the supplying company is an affiliate of Toshiba Corporation but not directly responsible for the sale to the Soviets, we feel some consideration should be given U.S. companies dealing with this division.

Respectfully,

Lyle B. Lund
Vice-President Engineering
Harper-Wyman Company
a subsidiary of Oak Industries

LBI/sc



4904 NORTH SECOND STREET • ROCKFORD, ILLINOIS 61111
815/282-5151



Dear Representative

As one of your constituents, I appeal to you to restore reason to Congress and to stop proposed legislation that threatens the livelihood of my company and our employees. I am an employee of Hughes Business Telephones located in Rockford, Illinois; and the proposed legislation would ban Toshiba products from the United States, products on which my company depends.

As an independent American business, we have invested our resources and our personal futures in providing products and services to our community, products and services which we believe our neighbors prefer. We market, service and depend heavily on Toshiba telecommunications equipment. If these products are denied us, as the proposed trade ban seems geared toward doing, our business will suffer mightily and needlessly.

All for what? So some Congressman can get TV coverage at a "product bashing" session in Washington, D.C.? That did not help us, your constituents. That did not help the United States. Instead, it had the aura of a "book burning". Indeed, under our system of justice, Congress does not pick out individuals to punish; in this year of our Constitution's Bicentennial you would think the Senate would have known better.

The Senators who sponsored this trade legislation may have had good intentions, but what they propose to do will have bad results. A newspaper editor in New York wrote in the New York Times on July 6, 1967 that "these measures would hurt America and the Alliance. U.S. sanctions would invite a destructive free-for-all among allies, each seeking redress for any offense." He was right. He should also have added these sanctions will hurt American businesses as well -- beyond the effects of a trade war -- since cutting off the flow of products hurts us, your constituents, from the very start.

I oppose illegal sales of equipment to the Soviet Union as much as anybody. When something like that happens, though, the cure is criminal prosecution in the courts of the individuals involved and strengthening the controls worldwide. Destroying one company's products or prohibiting Americans from buying those products, however, punishes the innocent more than anyone else.

The time has come for Congress to act rationally. The time has come to stop this legislation before it hurts your constituents. You are our voice in Congress. We are counting on you.

Sincerely,

Paula J. Smith

"SPECIALISTS IN BUSINESS COMMUNICATIONS"

Toshiba Submissions For the Record

IDENTICAL LETTERS TO ABOVE SUBMITTED BY:

Mr. Richard Hilton, President, Matrix Telecommunications, Inc.,
Seattle, Wash.
Mr. William H. Shields, President, Business Equipment Distributors,
Henderson, Ky.

July 13, 1987

Hon. Dan Rostenkowski
Illinois 8th District
THE HOUSE OF REPRESENTATIVES - 2111 RHOB
Washington, DC 20515

SUBJECT: TOSHIBA AMERICA, INC./TOSHIBA MACHINE CO.

Hon. Dan Rostenkowski:

I am writing to convey to you my opinion regarding the
TOSHIBA MACHINE CO.

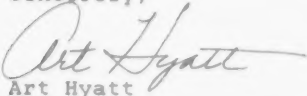
Although the TOSHIBA MACHINE CO. has committed a breach of
security, I don't think TOSHIBA AMERICA, INC., should be
penalized. TOSHIBA CORPORATION of Japan is only a share-
holder in TOSHIBA MACHINE COMPANY; and is not involved in
it's management.

TOSHIBA AMERICA, INC., is an AMERICAN company with 4,000
American employees, and is in no way related to the TOSHIBA
MACHINE CO.

TOSHIBA CORPORATION has already taken, and is continuing to
take, positive steps to prevent the recurrence of such a
situation.

I encourage you to vote positively for TOSHIBA AMERICA, INC.

Sincerely,



Art Hyatt
P.O. Box 544
Palo Alto, CA 94302

AH:bg

A SUBSIDIARY OF **WANG** LABORATORIES

July 16, 1987

Robert J. Leonard
 Chief Counsel
 Committee on Ways and Means
 U.S. House of Representatives
 Room 1102 Longworth House Office Bldg.
 Washington, D.C. 20515

Intecom, Inc. is a Texas-based company and a wholly owned subsidiary of Wang Laboratories. Intecom manufactures voice/data switching systems - the ITSS (Inter-Terminal Switching System).

Intecom presently has a gate array design produced by Toshiba that could greatly benefit our business. If Toshiba can not deliver product to us, we can not fulfill our current contractual obligations to our customers.

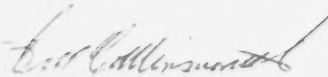
To develop an alternate source, it would cost Intecom approximately \$25,000 in engineering charges. The time required by Intecom's engineering resources would amount to about \$50,000.

Currently, some of our current production parts are single sourced from Toshiba. It will take approximately \$20,000 in engineering time to qualify new sources.

Intecom is also developing a new product, the World Class Switch (WCS). The gate array for this product is sole sourced on a Toshiba gate array. The inability to get the part from Toshiba could impact our introduction of the WCS into the market place thus reducing our potential market share.

Intecom is not a large company, therefore, the lost revenue and increased costs can cause a substantial burden on our financial stability. Thank you for allowing us to voice our concerns.

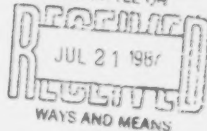
Regards, |


 Bill Collinsworth
 Sr. Vice President Operations

interpretak

12321 WALNUT AVENUE - GARDEN GROVE, CA - 92640

(714)530-5129
COMMITTEE ON



July 17, 1987

Hon. Dan Rostenkowski
Illinois 8th. District
House of Representatives-2111 RHOB
Washington, D.C. 20515

RE: **AN IMPORT BAN ON TOSHIBA PRODUCT? RIDICULOUS!**

Dear Congressman:

At Stake: American Jobs, American Business, Satisfied American Consumers.

My company has been selling outstandingly superior products from Toshiba America, Information Systems Division since 1982. We provide systems for Medical, Legal, Educational and Government as solutions to their computer needs. I have considered many hardware manufacturers. I HAVE ALWAYS DEPENDED UPON TOSHIBA.

Your committee is misinformed. An attempt to ban Toshiba America's product would be like punishing both of your children because one cut down the cherry tree.

Toshiba America needs not be punished for alleged deeds of an entirely separate cousin, Toshiba Machine Ltd. We didn't shut down Northrup for selling secrets to the Russians. We didn't shut down Ford Motor Company because Ford Aeronautics was caught in similar ill deeds.

My company, my staff and their dependents will be directly affected by any such stupid moves by your committee to say nothing about the many professionals desiring TOSHIBA products.

I implore you to use sound judgement and sane action and vote NO on any such proposals against Toshiba America!

Respectfully yours,

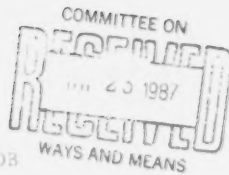
Thomas A. Chandler
Thomas A. Chandler
President

Installation & Dismantle

628 North Eckhoff Street
Orange, CA 92668
(714) 978-3412

July 17, 1987

Hon. Dan Rostenkowski
Illinois 8th District
The House of Representatives - 2111 RHOB
Washington, D.C. 20515



Dear Sirs:

I understand that your committee is considering a ban on the import of Toshiba products into the U.S.A. The effects of such a ban on the U.S. workforce and economy may not be obvious and should be seriously considered.

Toshiba directly employs approximately 4,000 U.S. citizens in this country and through several thousand Toshiba dealers throughout the U.S. Tens of thousands of jobs may be affected or eliminated. The vast majority of these jobs are in sales, marketing and maintenance of Toshiba products. Thus many thousands of U.S. jobs would be jeopardized due to the negligence of a few individuals.

On a more personal level, Toshiba represents approximately \$200,000 worth of business. A loss of this business would effect the 400 employees of I & D, Incorporated.

No doubt I recognize the seriousness of the action that Toshiba has committed against the U.S. I hope that you consider the ramifications that your import ban would have on the American workforce.

Thank you for your consideration.

Regards,

Scott Bennett
Vice President Sales
Western Region

SB:d

MACHINE VISION

July 15, 1987

Robert J Leonard, Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
Room 1102 Longworth House Office Building
Washington DC 20915

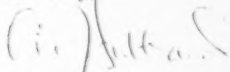
Dear Mr. Leonard:

We wish to register our concerns regarding the proposed legislation involving TOSHIBA Corporation currently being reviewed by the Subcommittee on Trade 110.

Our company is a small, growing, high tech firm involved in the design and production of Machine Vision systems. This vital technology is currently being used by many large and small American manufacturers. Additionally, our products are selling extremely well in Europe and will shortly be available for sale in Japan. Our ability to produce is heavily dependent on the supply of many TOSHIBA components, particularly 1 Megabyte DRAMS. Unrestricted access to these devices is absolutely vital to our firm's ability to produce products. Without ready supply at a reasonable price, we will be critically impacted. Restrictive legislation as proposed will seriously hamper both domestic and international sales, at a time when it is vital for this country to address a growing trade deficit. Our products sell well overseas and help American manufacturers build better, cheaper and more reliable parts. It is very important that we avoid short term restrictions which will have harmful long term impact.

We hope your committee will give our concerns serious consideration and we thank you for the opportunity to address this critical issue.

Sincerely,



A. W. Hubbard
Director of Materials

cc: Senator Warren B. Rudman
530 Hart Building
Washington DC 20510

ILLINOIS
J. LIVINGSTON COMPANY
 ELECTRICAL CONSTRUCTION AND COMMUNICATIONS

850 LEE STREET • ELK GROVE VILLAGE, ILLINOIS 60007

July 20, 1987



Honorable Dan Rostenkowski
 Illinois 08th District
 The House of Representatives - 2111 RHOB
 Washington, DC 20515

Dear Mr. Rostenkowski:

As one of your constituents, I appeal to you to restore reason to Congress and to stop proposed legislation that threatens the livelihood of my company and our employees. I am Vice President and General Manager of Illinois J. Livingston Company located in Elk Grove Village, Illinois; and the proposed legislation would ban Toshiba products from the United States, products on which my company depends.

As an independent American business, we have invested our resources and our personal futures in providing products and services to our community, products and services which we believe our neighbors prefer. We market, service and depend heavily on Toshiba telecommunications equipment. If these products are denied us, as the proposed trade ban seems geared toward doing, our business will suffer mightily and needlessly.

All for what? So some Congressman can get TV coverage at a "product bashing" session in Washington, D.C.? That did not help us, your constituents. That did not help the United States. Instead, it had the aura of a "book burning." Indeed, under our system of justice, Congress does not pick out individuals to punish; in this year of our Constitution's Bicentennial you would think the Senate would have known better.

The Senators who sponsored this trade legislation may have had good intentions, but what they propose to do will have bad results. A newspaper editor in New York wrote in the New York Times on July 6, 1987 that "these measures would hurt America and the alliance. U.S. sanctions would invite a destructive free-for-all among allies, each seeking redress for any offense." He was right. He should also have added these sanctions will hurt American businesses as well -- beyond the effects of a trade war -- since cutting off the flow of products hurts us, your constituents, from the very start.

ILLINOIS
J. LIVINGSTON COMPANY
 ELECTRICAL CONSTRUCTION AND COMMUNICATIONS

850 LEE STREET • ELK GROVE VILLAGE, ILLINOIS 60007

Page 2

I oppose illegal sales of equipment to the Soviet Union as much as anybody. When something like that happens, though, the cure is criminal prosecution in the courts of the individuals involved and strengthening the controls worldwide. Destroying one company's products or prohibiting Americans from buying those products, however, punishes the innocent more than anyone else.

The time has come for Congress to act rationally. The time has come to stop this legislation before it hurts your constituents. You are our voice in Congress. We are counting on you.

Very truly yours,
 ILLINOIS J. LIVINGSTON COMPANY

Larry B. Denison
 Larry B. Denison
 Vice President & General Manager

LBD/sd

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 0522P EST 17:24 EST


 western union

Telegram

▶ ROBERT J LEONARD CHIEF COUNSEL FOR WAYS AND MEANS, DLR
 US HOUSE OF REPRESENTATIVES
 1102 LONGWORTH
 HOUSE OFFICE BLDG
 WASHINGTON DC 20515

SUBJECT: PUBLIC HEARING ON HOUSE BILLS HR2698 AND HR2241
 AS A MANUFACTURER OF GOODS WHICH UTILIZE TOSHIBA COMPONENTS, WE ARE
 OPPOSED TO THE PASSAGE OF THE SUBJECT RESOLUTIONS WHICH WOULD
 ADVERSELY AFFECT IMPORTS OF TOSHIBA PRODUCTS,

KEN COGLON
 PURCHASING DEPT
 MANNESMANN TALLY CORP

17124 EST

IPMPOMX WSH

July 10, 1987

Honorable Dan Rostenkowski
Illinois 08th District
The House of Representatives 2111 RHOB
Washington, DC 20515

My dear Congressman Rostenkowski:

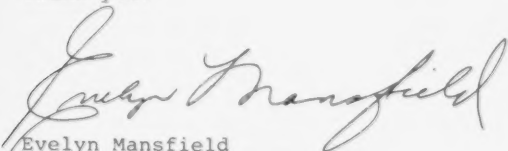
I understand that your Committee is considering a ban on the import of Toshiba products into the USA. Please consider that Toshiba directly employs approximately 4,000 US citizens in this country, plus tens of thousands others through the several thousand Toshiba dealers throughout the US...all jeopardized due to the thoughtlessness of a few.

Toshiba Corporation is a major importer of US made products into Japan and has been making many efforts to reduce the US/Japan trade deficit. This is a positive factor which should be considered. In excess of \$3.2 billion of Toshiba products come into the US each year and create our jobs (sales, marketing and the maintenance of these products).

You know that the divisions of Toshiba Machine Company that engaged in exports to Communist countries have been eliminated. I feel that the actions of few should not plague the livelihood of many honest hardworking individuals.

I am confident that you will investigate and study this situation thoroughly and vote against any ban of Toshiba products. Free trade, and honestly pursuing one's profession related to Toshiba contribute to the concept upon which this country is based.

Thank you.



Evelyn Mansfield
5126 Willowcrest Avenue
North Hollywood, CA 91601



Master Lease Corporation

Executive Office

July 16, 1987

The Honorable Dan Rostenkowski
 Illinois 8th District
 The House of Representatives - 2111 RHOB
 Washington, DC 20515

Dear Mr. Rostenkowski:

I would like to comment on the Senate's proposed ban on the importation of Toshiba products in the United States.

Certainly the activities of Toshiba Machine with regard to the sale of restricted material to the Soviet Union was an egregious act. The aggressive marketing tactics of Japanese companies in general is a well recognized phenomenon.

However, I would like to respectfully suggest that a ban on the importation of Toshiba products will cause harm to many U S citizens... those directly employed by Toshiba and those employed by affiliates and associates of Toshiba.

A more appropriate response might be on a government to government basis with regard to controls and audits. Please give careful consideration to the imposition of an import ban. Many Americans could be hurt by it.

Very truly yours,

Abraham Bernstein
 President

AB/ear

Computer Systems, Inc.
MERCURY

Wannalancit Technology Center
600 Suffolk Street
Lowell, MA 01854
617/458-3100/TELEX # 311515 MERCOMP LOWE

July 13, 1987

Robert J. Leonard
Chief Counsel
Committee on Ways & Means
US House of Representatives
RM 1102 Longworth House Office Bldg.
Washington, D.C. 20515

Dear Sir:

Presently Mercury Computer Systems uses Toshiba Components in many of its products. These components are sole sourced from Toshiba at this time because of their unique specifications, and are not available from other suppliers, both domestic and foreign.

Without these Toshiba Components, many of our products will require extensive redesign and/or significant change in specifications for the end-user.

Moreover, our customer list includes some major government suppliers who may be adversely affected by delivery delay and/or specification changes in Mercury Computer Systems products.

Mercury Computer therefore requests that Toshiba Electronic components not be prohibited from exporting components into the United States, nor for use by D.O.D. suppliers.

Respectfully Submitted,

Linda Vasquez

Linda Vasquez
Purchasing Manager

LV/ag

STATEMENT OF
J. DENT FARR
DIRECTOR OF GOVERNMENT RELATIONS
NORTH AMERICAN TELECOMMUNICATIONS ASSOCIATION

Mr. Chairman:

My name is Dent Farr. I am the Director of Government Relations for the North American Telecommunications Association (NATA), the trade association of the telecommunications equipment industry. NATA represents over 700 independent manufacturers, suppliers, and distributors of state-of-the-art telecommunications equipment, such as Private Branch Exchanges (PBXs) and key systems. Our members are both domestic and foreign-owned companies. I appreciate the opportunity to present this statement on legislation to prohibit the importation of products made by the Toshiba Corporation and Kongsberg Vapenfabrik Company. At the outset, I should mention that I do not represent that the views expressed in this statement are necessarily those of all of NATA's members. They do reflect the feelings of several of our member firms who have been in touch with us on the matter.

Last February, NATA's President, Edwin B. Spievack, had the privilege of appearing before this Subcommittee to testify on H.R. 3, the "Trade and International Economic Policy Reform Act of 1987." At that time, Mr. Spievack cautioned the Committee that, in resolving our trade problems, "We must be certain that the proposed solutions are substantive rather than political--responsive rather than reactionary."

Mr. Chairman, that advice is equally apt today. Problems pointed up by the Toshiba and Kongsberg sales to the Soviet Union are indeed serious national security concerns. They should be addressed as such. Our fear is that because so much of the rhetoric over the issue blurs the distinction between national security and trade and centers around punitive "solutions"--that a golden opportunity may be lost. That is, we have a chance now to reach substantive solutions to a serious national security problem. To date, public debate suggests that the "solution" being sought legislatively will do little to resolve the core problem.

We have a second concern over proposals to ban all sales by all subsidiaries of these firms in the United States. By swinging the club of a trade ban against these firms, as we have been doing, we are going to jeopardize thousands of American jobs and raise American business costs.

Toshiba America--the U.S. subsidiary of the Toshiba Corporation--employs some 4,000 individuals in this country. Many more are dependent on Toshiba's products for their livelihood in independent distributor sales and operations. In the telecommunications

field alone, there are nearly 400 American companies which rely upon Toshiba's products. Those firms employ some 8,000 to 10,000 Americans. Many thousands of U.S. businesses currently rely upon Toshiba telecommunications and computer systems. Could they switch to other systems? Of course alternatives are available, but there is a significant cost to a business when it must make such a change--costs in terms of new equipment, spare parts, and training.

NATA is not suggesting that a ban on Toshiba products would result in all of these people losing their jobs, or all of these firms going out of business. But it would be equally naive to think that some percentage of these would not be lost.

An article in the July 13, 1987, Washington Post Business section summed it up rather well. It refers to the Senate approval of the amendment to the Trade bill and the bills under consideration in the House and states, "What this means is that the Congress wants to reduce the choices available to American consumers and to increase the prices that we pay. Take that, Japan!"

Mr. Chairman, the frustrations felt by the Congress over deficit trade issues are perfectly understandable. They are shared by many Americans. The Congress, under the leadership of this Committee, is working hard on solutions to those problems. The House has approved H.R. 3, and the Senate has nearly completed its work on a companion measure.

The issue before the Congress in this instance is not really trade. It is one involving national defense. As the Wall Street Journal recently editorialized, "In the Congress's current mood, just about anything becomes an excuse for choking trade in one way or another. But what the Toshiba-Kongsberg case proves is not the need for less trade, but the need for more seriousness about defense."

What, then, should the United States do? Surely, Mr. Chairman, we should use this situation to repair the damage done by the sales and ensure as best possible that such sales do not recur.

Through the COCOM agreements, we must tighten the monitoring of exports of strategically important products and technologies and ensure the swift prosecution by signator nations of any violators.

We can use the leverage gained by the situation to get Japan, and other nations where necessary, to pass meaningful espionage laws. The lack of such a law in Japan makes it easier for the Soviets to gain access to American secrets through that country.

We must develop methods to repair the damage that has been done. Japan and Norway have, as we understand it, offered their expertise in anti-submarine techniques to assist the United States. That is only proper.

There are undoubtedly other steps which can and should be taken. Congress--and indeed all Americans--are justifiably angry over these sales. Surely, we can channel that anger into a constructive course of action which addresses the national security problem directly and substantively without taking a sledgehammer to our allies and, worse yet, to thousands of wholly innocent Americans whose businesses and jobs rely upon the products we talk about banning. The temptation to react so strongly is all but overwhelming. But let us not overreact. The overwhelming problem is a national security one. Let us use our wisdom to solve it, and not get sidetracked by our anger.

Mr. Chairman, thank you again for granting NATA the opportunity to present this statement.

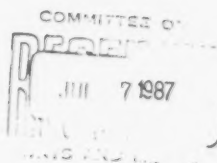
NORTH CENTRAL X-RAY, INC.

800 Continental Boulevard • Danville, Pa. 17821 • (717) 275-7713



July 1, 1987

Representative Daniel Rostenkowski
2111 Rayburn House Office Bldg.
Washington, DC 20515



Dear Representative Rostenkowski,

My name is Robert Koons. I am president of North Central X-Ray and North Central Digital Systems in Danville, PA. This letter is an urgent plea to consider and/or reconsider the action banning the import of Toshiba products to this country. And to bring pressure to bear, in an effort to avert economic disaster to the many innocent people that will be affected by that action. North Central as well as many other innocent companies.

Unfortunately, both of the companies sell Toshiba products. North Central X-Ray sells Toshiba Medical Systems equipment and North Central Digital Systems sells:

Toshiba Computers
Toshiba Copiers
Toshiba Facsimile
Toshiba Printers

Our gross net purchases of Toshiba products are very close to \$2,000,000.00, with a gross profit in the neighborhood of \$1,000,000.00, per year. Loss of these products and these dealerships could create a bankruptcy of this company and, at the very least, a substantial reduction in the number that we employee. Currently, we employee 57 people.

I am also the father of a young man serving in the Nuclear Navy. He is assigned to the new Trident sub, USS Tennessee SSBN734.

Obviously, with a son in our Navy, I am more concerned than the average person about the sale of the propeller milling equipment to the Soviet Union, which enables their submarines to run quieter and make other vessels faster and more maneuverable. I even apologized to my son for Toshiba Machines indiscretion some time ago.

Answering Services

Dunbury (717) 286-6333 Pittston (717) 655-4191
Camp Hill (717) 761-6110 Altoona (814) 943-2595

Page 2 of 2

I do understand the gravity of the situation, militarily, and the cost to regain our superiority. However, I must question the punishment when so many innocent people are involved. We did not execute whole nations to retaliate for war atrocities, only the guilty individuals. In this instance, the innocent at home will suffer even worse than the innocent in Japan. Today, I learned that as many as 200,000 people may be affected, either directly or indirectly in this country, should this ban occur.

Please find enclosed a copy of a letter I've written to Prime Minister Nakasone and others. And, please once more reconsider how to impose a penalty that would hurt fewer innocent people.

Respectfully,

Robert E. Koons Jr.
Robert E. Koons Jr.
President, N.C.X./N.C.D.S.

Enclosure

REK/lm

NORTH CENTRAL X-RAY, INC.

800 Continental Boulevard • Danville, Pa 17621-1096 • (717) 275-7713



July 1, 1987

His Excellency
Yasuhiro Nakasone
Prime Minister of Japan
Tokyo, Japan

Dear Prime Minister Nakasone,

This letter to you is about the impending embargo on all "Toshiba" brand products. Enclosed is a letter I have written to many legislators which expresses much of my concern regarding such a ban.

The severity of the ban or sanctions is in large part due to Japan's refusal to lift trade restrictions, to curb dumping practices, and internally punishing the guilty, a punishment befitting the crime.

Sir, while I have these personal concerns, may I remind you that, essentially, this country gave your country back to its people. It is a debt that is impossible to repay in dollars or yen.

Because the world is quickly changing, we now need your help and understanding. And it is time to offer through action some measure of repayment by fair trade practices and by truly penalizing the subsidiary of Toshiba (Toshiba Machine Company) that violated or lied to your Trade Minister. I believe that Japanese honor demands that you do. Your parents were honorable enough to tell Washington of the impending attack on Pearl Harbor, before it occurred.

Due to the indiscretion committed by "Toshiba Machine", our military estimates a cost in excess of \$30 billion dollars to, if possible, regain the superiority that was lost.

I do believe that Japan should heavily contribute to that loss in the form of technology or dollars.

COPY

Answering Service

Page 2 of 2

In closing, I wish to point out two things and they are:

1. The countries occupied by the USSR are not as fortunate as Japan in the respect that Japan has the political and economic freedom which has allowed them to become a leader in the integration and production of today's technology.

2. I live in a part of the world that allows me to plea for you and yours without fear of any retaliation, that condemns my action. We are free, and Sir, you are free because of a military balance of power; one that is now at risk.

Respectfully,


Robert E. Koons Jr.
President, N.C.X./N.C.D.S.

Enclosure

cc: Mr. Nobuo Matsunaga, Ambassador of Japan
Mr. Joichi Aoi, President of Toshiba Japan
Mr. Nobuo Ishizaki, Chairman of Toshiba America, Inc.

REK/lm

COMMENTS ON BEHALF
OF
ONKYO CORPORATION

INTRODUCTION.

These comments are filed on behalf of our client, Onkyo Corporation ("Onkyo"), in opposition to HR 2698 and HR 2241. These bills would bar importation of products manufactured by Toshiba Corporation and its subsidiaries into the United States, the former bill for a five year period and the latter permanently. The majority of shares of Onkyo's stock are owned by Toshiba Corporation, and therefore products manufactured by Onkyo would be barred from importation into the United States under these bills.

ONKYO CORPORATION.

Onkyo is a Japanese corporation engaged exclusively in manufacturing and marketing consumer audio products, including turntables, amplifiers, tuners, receivers, cassette decks, CD players, speakers, and related accessories. No products

Windels, Marx, Davies & Ives, 1701 Pennsylvania Avenue, N.W., Washington, D.C. 20006, is registered under the Foreign Agents Registration Act as an agent of Onkyo Corporation for the dissemination of this document. The material is filed with the Department of Justice, Washington, D.C., where the registration statement is available for public inspection. Registration does not indicate approval of the contents of this document by the United States Government.

manufactured or marketed by Onkyo are subject to CoCom restrictions. Onkyo has a corporate identity which is entirely distinct from Toshiba and markets its products exclusively under the Onkyo brand name. The Onkyo brand name is well known to U.S. consumers of stereo components for its quality and value. Last year, Onkyo's total sales were approximately \$275 million, of which roughly 25% represented sales through its two wholly-owned U.S. subsidiaries, Onkyo USA Corporation, based in Ramsey, New Jersey, and Onkyo America Corporation, based in Schaumburg, Illinois.

Established in 1975, Onkyo USA is involved exclusively in the importation and sale to independent retailers in the United States of consumer audio products manufactured by Onkyo and its wholly-owned Japanese subsidiaries. Onkyo America, which was formed in 1979, imports and sells speakers manufactured by Onkyo to major U.S. automobile and television manufacturers.

Together, Onkyo's business operations in the United States currently employ approximately 40 persons in the offices of its subsidiaries in New Jersey and Illinois. In addition, there are approximately 70 additional independent sales representatives working on a commission basis who rely on Onkyo for all or substantially all of their income. Although Onkyo's U.S. business activities have been limited to distribution and marketing of consumer audio products manufactured in Japan, Onkyo is presently in the final stages of site selection for a U.S. factory to produce certain of its products. The factory will be situated in the midwest and will employ approximately 200 workers.

Since 1957, Toshiba Corporation has owned approximately 69% of Onkyo's shares, the balance of which are owned by the founder of Onkyo, Mr. Takeshi Godai, members of his family, and certain Onkyo employees. Mr. Godai founded Onkyo in 1946 and has been its only President and Chairman of

the Board. Toshiba Corporation's investment in Onkyo was made at a time when Onkyo was on the verge of failing, and it enabled Onkyo to escape bankruptcy and liquidation. At that time, Onkyo was an important supplier of television sets to Toshiba Corporation under an OEM arrangement. Onkyo withdrew from television manufacturing 15 years ago, and has concentrated entirely on consumer audio products since that time. As a consequence, it has become increasingly less dependent upon Toshiba Corporation.

Since Onkyo discontinued its television manufacturing operations and ceased to be dependent upon Toshiba Corporation for financial support, Onkyo has been run as an independent company. Indeed, it is not generally known that Toshiba Corporation has a significant equity interest in Onkyo, as the two companies have been direct competitors in a number of product lines. Additional details concerning Onkyo's relationship with Toshiba Corporation are set forth in Exhibit A.

HR 2698 AND HR 2241 ARE INAPPROPRIATE RESPONSES TO THE TECHNOLOGY DIVERSION.

Onkyo shares the concern and outrage of the United States Congress over the diversion of advanced milling machinery to the Soviet Union. There is no question that the governments of the United States, Japan and other CoCom members must take immediate steps to ensure that the United States and Western security interests are not similarly compromised in the future. Onkyo agrees fully with the views expressed at the July 14, 1987, Subcommittee hearings that this unfortunate incident provides an excellent opportunity for the United States government to pursue substantial improvements in CoCom enforcement and to press CoCom members to tighten their own export control laws and related administrative procedures.

There is no dispute that this incident has severely damaged the national security of the United States and that remedial legislation is needed to protect the United States from such occurrences in the future. Harsh deterrents are indeed necessary. The sweeping punitive measures that would be imposed under HR 2698 and HR 2241, however, are in our view inappropriate. Innocent companies not even remotely involved with the diversion would be unfairly punished.

IF THE SUBCOMMITTEE DETERMINES THAT PUNITIVE MEASURES SHOULD BE IMPOSED, IT SHOULD DO SO IN A MEASURED WAY THAT WILL ALLOW INNOCENT COMPANIES LIKE ONKYO TO AVOID BEING SUBJECT TO SANCTIONS IMPOSED.

A. Any Punishment Should Be More Carefully Targeted.

The Subcommittee should understand that for a company like Onkyo which is so dependent upon the U.S. market, an outright ban on imports to the United States would threaten its viability. Such a ban would, in effect, be the business equivalent of capital punishment. No penalty could be more severe.

Fundamental principles of fair play and due process require that punishment be directed towards and exacted upon the individual or entity which committed the offense. The more harsh the penalty to be imposed, the higher is the standard of precision that is generally required in its application. Yet in this case "capital punishment" would be decreed for companies having any ownership relationship with Toshiba Machine Co., Ltd., no matter how remote. Such punishment by attribution would be without precedent in our system of law. The focus of any punitive measures should instead be on the companies more directly involved with the diversion.

It is well documented in the record that four companies were directly involved in compromising the security interests of the United States in this instance: Kongsberg

Vaapenfabrikk of Norway and Toshiba Machine, C. Itoh Co., Ltd. and Wako Koeki Co., Ltd. of Japan. Of these companies, only Toshiba Machine would be effectively punished by the proposed legislation. But because these bills would punish Toshiba Machine as a "subsidiary" or "affiliate" of Toshiba Corporation, the scope of the sanctions imposed would extend far beyond the direct offenders.

The other companies directly involved would escape sanctions completely or in large measure. The absence of any sanctions against C. Itoh, one of Japan's largest trading companies with U.S. sales of approximately seven billion dollars, and against Wako Koeki, is conspicuous. In the case of Kongsberg, it has already been restructured, and based upon the July 14, 1987, Subcommittee hearings and the recognized need for exceptions to any sanctions for articles needed for national security, it is reasonable to expect that the successor company will be permitted to continue substantial levels of sales in the U.S. Such an exemption would apply, for example, under S. 1420, as amended.

Our client, Onkyo, had no knowledge of or involvement with the Toshiba Machine sale. Moreover, our client was not remotely in a position where it would be fair or reasonable to suggest that it should assume responsibility for such sale. Under the circumstances, it is extremely difficult for Onkyo to understand why its U.S. business should be threatened with extinction by an act of Congress when certain companies directly involved in the diversion would escape sanctions altogether. We respectfully urge the Subcommittee to take a closer look at the issue of which companies should be punished.

B. The Subcommittee Should Propose Legislation Which Would Provide for Limitations on Sanctions Against Subsidiaries Which Were Not Directly Involved.

As stated above, we strongly urge enactment of a law which would exempt subsidiaries of Toshiba Corporation which

were not in any way involved in the diversion from the application of sanctions. If, however, any Toshiba Corporation subsidiaries beyond Toshiba Machine are to be potentially subject to sanctions, at the very least we request that clear authority be given to the President to limit the applicability of sanctions against innocent subsidiaries.

Such limitations should apply where the prospective adverse economic impact on the companies which are made subject to the sanctions is judged to be of sufficient magnitude to achieve the primary purposes of the statute. Surely fairness dictates that sanctions should be structured so as to enable companies in Onkyo's position to escape their application.

Respectfully submitted,

WINDELS, MARX, DAVIES & IVES

By Richard R. Lury (m. AL)
Richard R. Lury

By Jonathon R. Moore
Jonathon R. Moore

WINDELS, MARX, DAVIES & IVES
1701 Pennsylvania Avenue, N.W.
Washington, D.C. 20006
(202) 775-5980

Counsel for:
ONKYO CORPORATION

EXHIBIT A

SUMMARY OF RELATIONSHIP BETWEEN ONKYO CORPORATION AND TOSHIBA CORPORATION

- I. Stock. The shares of Onkyo Corporation ("Onkyo") are not publicly traded. Toshiba Corporation ("Toshiba") owns 69% of the shares. The balance is owned by Mr. Takeshi Godai, Onkyo's founder, President, and Chairman of the Board, members of his family, and certain Onkyo employees.
- II. Circumstances Surrounding Toshiba's Purchase of Shares in Onkyo. In 1957 Onkyo was failing and faced bankruptcy and possible liquidation. At that time, Onkyo was primarily involved in television manufacturing and purchased its entire requirements for picture tubes from

Toshiba. In addition, under an arrangement with Toshiba, Onkyo manufactured televisions for Toshiba with the "Toshiba" brand name. Toshiba's investment in Onkyo essentially recapitalized the company and permitted Onkyo to continue in business.

- III. Officers and Directors. With the exception of a second level "statutory auditor" appointed by Toshiba, none of Toshiba's officers, directors, or employees are also officers, directors, or employees of Onkyo. None of Onkyo's officers, directors, or employees are also officers, directors, or employees of Toshiba. The statutory auditor appointed by Toshiba must be notified of and is entitled to attend, but not to vote at or participate in all Board of Directors meetings of Onkyo. Onkyo also has a primary statutory auditor who is named by Onkyo's management. Onkyo's directors are selected by Onkyo's management. Although technically subject to Toshiba's approval, such selections have historically been accepted by Toshiba.
- IV. Dealings Between Toshiba and Onkyo. Although at the time Toshiba invested in Onkyo, Onkyo was an important supplier of television sets to Toshiba and Onkyo purchased all of its television picture tubes from Toshiba, Onkyo's dependency upon Toshiba has decreased markedly over the years. The OEM arrangement with Toshiba ended over 15 years ago when Onkyo withdrew from television manufacturing. Currently, Onkyo's procurement of components from Toshiba amounts to less than one-half of 1% of all its purchases from outside suppliers. Indeed, there are numerous other vendors from whom Onkyo purchases a much higher percentage of components. Onkyo's sales to Toshiba Corporation are now limited to speakers and components therefor, and amount to less than 1% of Onkyo's total sales volume. In addition, Onkyo has never done any business with Toshiba Machine Co., Ltd.
- V. Brand Identity. Although, as mentioned above, Onkyo at one point in time was heavily involved in the manufacture of televisions for Toshiba which were marketed under Toshiba's brand name, Onkyo has worked hard to develop and market the integrity of the Onkyo brand name. Indeed, it is not generally known that Toshiba has an equity stake in Onkyo, because the two companies have been competitors in certain product areas.
- VI. New Product Development. Since withdrawing from the television business, Onkyo has devoted its business exclusively to the development and marketing of consumer audio products, without interference by Toshiba. Onkyo chooses the product lines it wishes to enter and is left to the judgment of the marketplace as to whether new product lines succeed. Toshiba has no veto power over which product lines Onkyo enters, and indeed, in numerous cases, Toshiba and Onkyo have been competitors.
- VII. Earnings. In recent years, Onkyo's Board has followed a policy of retaining the overwhelming majority of Onkyo's earnings for reinvestment in Onkyo's businesses. Last year, for example, 88% of earnings were retained and dividends paid by Onkyo to Toshiba represented only 8.3% of Onkyo's earnings. This constituted only 0.182% of Toshiba's total reported earnings.

Note: All dollar figures used in the foregoing statement were derived by applying an exchange rate of one U.S. dollar to ¥150.

July 13, 1987

Hon. Dan Rostenkowski
Illinois 8th District
THE HOUSE OF REPRESENTATIVES - 2111 RHOB
Washington, DC 20515

Hon. Dan Rostenkowski:

I am more than concerned about the news of a possible ban on products imported by TOSHIBA AMERICA, INC.

TOSHIBA AMERICA, INC., as you may know, employees more than 4,000 people throughout the United States and contributes to the livelihood of thousands more through the distributors, dealers, and manufacturers of TOSHIBA products. A ban of TOSHIBA products would do far more damage than good.

The U.S. must continue to build upon our trade relations with Japan in an effort to help balance the deficit. A ban on the importing of products that add value to the U.S. manufactured products such as semi-conductors, floppy and Winchester disk drives, etc. is not is not a good solution to a problem TOSHIBA AMERICA, INC., had very little part in.

TOSHIBA CORPORATION imports several hundred million dollars worth of products from the United States indicating a sincere effort to balance the trade deficit. Serious consideration must be made of what resultant effect such a ban would have on the American workforce involved.

The proposed ban against TOSHIBA CORPORATION and TOSHIBA AMERICA, INC., must be stopped at once.

Sincerely,

Tim O'Reilly

Tim C.O'Reilly
105 Olive Avenue
Los Gatos, CA 95030

TCO:bg

PACIFIC BUSINESS PRODUCTS, INC.

538 WEST TRIMBLE ROAD • SAN JOSE, CA 95131 • (408) 435-0300

Hon. Dan Rostenkowski
Illinois 8th District
The House of Representatives-2111 RHOB
Washington DC 20515

July 12, 1987

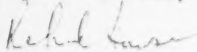
Dear Representative,

I understand that your committee is considering a ban on the import of Toshiba products into the U.S.A. I am an independent Toshiba dealer and wish you to consider the following:

1. Toshiba America directly employs approximately 4,000 U.S.- tax paying citizens throughout the U.S. whose jobs would be eliminated.
2. Approximately 1,000 independent Toshiba dealers in the U.S. employ an additional 42,000 U.S. citizens whose jobs would be affected or eliminated.
3. Toshiba Machine, the guilty party, is totally separate from Toshiba Corporation. A ban of Toshiba products to the U.S. would not punish them, but would do immense harm to Toshiba America and Toshiba dealers and their employees, all of which are U.S. citizens, voters and tax payers.
4. Toshiba Corporation and Toshiba Machine have already taken harsh measures concerning this issue and the Japanese government is willing to do whatever is necessary to correct any damage done and insure it will never happen again.

I hope you will investigate and study this situation thoroughly and then take the appropriate action and vote against any ban of Toshiba products to the U.S.

Sincerely Yours,



Richard Hanson
President

RAH/az

HONORABLE DAN KOSTENKOWSKI
 ILLINOIS 8TH DISTRICT
 THE HOUSE OF REPRESENTATIVES - 2111 R10B
 WASHINGTON DC 20515

7-2-87

Subject: Toshiba Products BAN

DEAR SIR,

I AM EMPLOYED by Copy Distributing of SAN ANTONIO TEXAS, AND HAVE BEEN FOR THE LAST 12 YEARS. I AM A SINGLE FEMALE, HOME OWNER, AND Rely Solely ON THE SALE OF Toshiba COPIERS AS MY INCOME. WE SERVICE VARIOUS BRANDS OF COPIERS, but MARKET ONLY TOSHIBA. A BAN SUCH AS THE ONE CONGRESS IS CONSIDERING WOULD NOT ONLY JEOPARDIZE MY JOB BUT 29 OTHER EMPLOYEES, THE BUSINESS ITSELF, AND NEARLY 1000 CUSTOMERS (PRIMARYLY BUSINESSES) IN AND AROUND THE SAN ANTONIO AREA. THESE ARE ACCOUNTS WHICH WE SERVICE AND SUPPORT AND HAVE FOR ALMOST 24 YEARS.

I DO NOT CONDONE WHAT Toshiba MACHINE HAS DONE, but by BANNING ALL Toshiba PRODUCTS WE ARE PUNISHING THOSE SUBSIDIARY COMPANIES WHICH ARE NOT TO BLAME. FOR INSTANCE, Toshiba AMERICA INC. WHO EMPLOYEES OVER 10,000 PEOPLE HERE IN THE UNITED STATES NOT EVEN COUNTING A HUGE DEALER NETWORK, MANY OF

WHOM ALSO MARKET ONLY TOSHIBA COPIERS. IN TEXAS ALONE 19 DEALERS WITH AN AVERAGE OF 15 EMPLOYEES EACH. BUT, IT GOES MUCH FURTHER, ALL 3M COPIERS ARE MADE BY TOSHIBA. SO TOO WE WOULD JEOPARDIZE ANOTHER COMPLETE COPIER PRODUCT LINE NATIONWIDE. BECAUSE WE DO SERVICE OTHER BRANDS WE KNOW THAT TOSHIBA COMPONENTS ARE FOUND IN OTHER COPIERS AS WELL SUCH AS KONICA ROYAL, AND XEROX TO MENTION A FEW. SO THEY TOO COULD FIND IT IMPOSSIBLE TO SERVICE THEIR CUSTOMERS.

IN AN ARTICLE IN THE WALL STREET JOURNAL 7-1-87 A COMMENT MADE BY SEN. JAKE GARN (R. UTAH) "WE WANT TO HURT THEM IN THEIR POCKETBOOK". IN SUCH A DEPRESSED TEXAS ECONOMY IT WILL NOT ONLY BE JAPAN THAT SUFFERS. I URGE YOU TO CONSIDER THE DEVASTATING EFFECT IT WOULD HAVE ON INNOCENT, HARD WORKING AMERICANS.

SINCERELY,
Linda Patton

July 10, 1987

Dear Congressman,

This is the first occasion I've had to write a Congressman. I hope it doesn't go in the "Round File."

Regarding the Senate's proposed ban on Toshiba products I, like many thousands in this country, work for a small company (25 employees) whose survival is based on sales of Toshiba office equipment. The adverse publicity has already taken a toll on our sales and if the ban is imposed could force us out of business.

I don't condone what a few individuals did at Toshiba Machine LTD but why punish Toshiba Corporation, let alone Toshiba America, Inc., which directly employ thousands of people in the U.S.

It appears that the Senate acted on impulse to punish one company for the harbored resentment against the Japanese because of the current trade imbalance between our countries.

Respectfully,
 Bob Fenehouse
 2011 Morning Dove
 San Antonio, Tex. 78232

O.C. Register
 Sunday - 7/5
 Editorial page

Bumbling on plundering

One of the grossest modern spectacles is Congress in a fit of moralizing. This week it all but declared war against Toshiba Corp. for selling high-tech machinery to the Soviets. The sale indeed was serious. It helped the Soviet Navy develop silent submarine propeller shafts. Toshiba's top two executives resigned because of it; and Japan's government is taking steps of its own.

But consider how the honorable gentlemen on Capitol Hill are dealing with the problem. The Senate passed a bill to ban the sale of Toshiba products — and those of another offending firm, Norway's state-run Kongsberg-Vaapenfabrikk — for at least two years. If the bill becomes law, it will immediately hurt innocent American workers, such as the 820 employed at Toshiba's three Orange County facilities.

It will also severely cripple Toshiba, which sold \$3.4 billion worth of products in the United States last year, perhaps destroying the company. That's not something allies should do to each other.

The House, meanwhile, took a more primitive approach. Ten representatives smashed a Toshiba radio to bits with sledgehammers on the Capitol lawn.

What we're seeing here, really, isn't rage over technology sold to the Soviets, but a manifestation of congressional protectionism, tinged with a bit of anti-Japanese racism. After all, the representatives didn't take sledgehammers to Norwegian bookshelves.

What, seriously, can be done to stop the Soviets from getting their hands on our critical military technology? Perhaps our congressmen should put the sledgehammers to their own heads. They themselves have created most of the problem.

Sanctions against trading with the

Soviets almost never work. They retard free trade between free nations more than they slow Soviet military developments. The Kremlin almost always finds ways to buy — or steal — what it wants.

And there's the key: The Soviets first have to know what they want. That's the critical step in Soviet military acquisitions. They figure that out by sending to the West KGB and GRU (Soviet military intelligence) agents trained in spotting industrial products the Soviets' ramshackle socialist economy can't produce. These spies don't come here openly, of course; they come as members of Soviet scientific and technical delegations.

Guess who sponsors and subsidizes such delegations? The same fellows conducting the congressional jihad against Toshiba. Our congressmen call it "advancing understanding between the superpowers."

If Congress really wants to stop the Soviets from stealing our technology, it should stop funding "cultural" exchanges with Soviet spies, and reduce the number of personnel allowed at the Soviets' embassy in Washington, their U.N. mission in New York, and their consulate in San Francisco. We should encourage our allies to do the same. If we stop helping the Soviets find out what to buy, then they won't buy what they need.

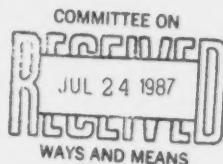
Another step Congress should take is to investigate Soviet violations of U.S. patents. Soviet factories routinely violate, socialist-style, this essential right to private property. Wherever the Soviets are found in violation, American courts could levy judgments and penalties against the Soviet government that runs the factories. Again, we should work with our allies, especially Japan, to insure that the property of all free people is protected from socialist plunder.

REGENCY TELECOMMUNICATIONS CORP.

2882 ANTOINE
HOUSTON, TEXAS 77092
713 / 688-5056

July 14, 1987

Honorable Dan Rostenkowski
The House of Representatives
Washington, D.C. 20515



Dear Sir:

I understand that your committee is considering a ban on the import of Toshiba products into the United States. The effects of such a ban on the U.S. workforce and economy may not be obvious and should be seriously considered:

Toshiba directly employs approximately 4,000 U.S. citizens in this country and indirectly employs, through several thousand Toshiba dealers throughout the U.S., tens of thousands, whose jobs will be affected or eliminated. The vast majority of these jobs are in sales, marketing and maintenance of Toshiba products. Thus, many tens of thousands of U.S. jobs would be jeopardized due to the misconduct of a few individuals who choose on their own to commit an illegal act.

In excess of \$3.2 billion worth of Toshiba products are delivered in the U.S. each year. Hundreds of thousands of businesses that have chosen Toshiba telephone systems which require service, upgrades and expansions would be affected by this legislation.

Toshiba Corporation is a major importer of U.S. made products into Japan and has been making many efforts to reduce the U.S./Japan trade deficit. We should try to build continuing relationships with companies like Toshiba, not destroy what already exists.

On a more personal level, my livelihood will be seriously jeopardized if restrictive legislation were passed.

Toshiba Corporation and the Japanese Government have already taken harsh measures regarding the Toshiba Machine issue. I sincerely hope, that as an elected official of this country you will investigate and study this situation and thoroughly consider a more constructive response of cooperation instead of retaliation. I respectfully request you vote against any ban of Toshiba products.

Protect the jobs of thousands of Americans and ensure free trade. A concept on which this country is based.

Thank you for your consideration.

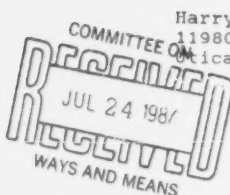
Sincerely,

Kelly M. Miller

Sincerely,

D. H. Stanton

July 15, 1987



Harry J. Richardson
11980 Cherokee Circle
Okla. Mich. 48087

Dear Congressman,

I am writing to you because I am very concerned about the congressional response to the illegal sale of machinery by Toshiba Machine Co. of Japan to Russia.

My concern is that the U.S. response is being coupled and confused with other very important but unrelated issues. The sale of the machinery to Russia is not related to:

- A) the U.S. trade deficit problem.
- B) the U.S. defense budget problem or appropriation of funds for the newly proposed Seawolf submarine.
- C) Japans' defense budget.

This very serious issue must be considered and dealt with singularly. To mix it with any other topic would be a serious error and as I will point out later could cause us much embarrassment in the future. (E.g.: Chastising our allies for selling arms to Iran, then getting caught at it ourselves.) To meter out a punishment that does not match the crime will make the U.S. look foolish. The sight of our respected leaders smashing imported radios on the evening news does not inspire me with confidence in their judgement. America is just and fair. The actions of the Congress should never make us look like less to the rest of the world.

Certainly the sale of the sophisticated milling machines to Russia was wrong and illegal. The machines supplied by Toshiba may have been used by the Soviets to rough cut newly designed submarine propeller blades. To determine the U.S. policy response it must be clearly established to what degree this sale has affected the U.S. national security interest. Is it so great that the U.S. should impose crippling fines of billions of dollars or force the closing of a company not unlike our General Electric Company?

In order to determine this the facts must be clearly established. Additionally, the circumstances and problems that surround a policy formulated to deal with this situation must be considered. I will deal with these 2 areas in a brief outline form.

FACTS

- 1) Japan does not want silent Soviet submarines snooping around its shores any more than we do. Clearly we have a mutual interest in this area.
- 2) The illegal sale was conducted by individuals at Toshiba, not by the Japanese government or people or even the Toshiba workers. Japanese law was violated.
- 3) The Japanese government has punished the Toshiba Machine Co. very severely by:
 - a) stopping all sales to the eastern block nations for one year.

b) forcing the resignation of the top officials of the Toshiba parent company and at the Toshiba Machine Company. Additionally criminal prosecution of the responsible individuals is in process.

c) a very strict regulation of all Toshiba exports is now in effect. The Japanese government is monitoring this by a end-user verification process.

4) In order to determine the impact on U.S. national security interests one must scientifically and logically identify this relationship of cause and effect between the sale and the resulting damage.

Toshiba supplied computerized milling machines to the Soviets. These machines are only capable of milling metal, and milling is only a roughing process. The machines are not propeller milling machines per se. Many other processes and techniques must be applied to achieve a desired finished product. The sale of the machines by Toshiba could not on their own merit give the Soviets great advancements in submarine propeller technology.

The noise level reductions on the newer classes of Soviet submarines was realized through many alterations and design changes. These changes relate to:

- Hull Design
- Wing Design
- Reactors
- Valves
- Turbines
- Reduction Gears
- Shafts
- Propellers
- Insulation

The noise level reduction attributable to the newly designed propellers is a small percentage of the total gains made by the Soviets in this area. Toshiba can only be blamed for its participation in the sense that it's machinery may have been used for the rough milling of the propeller blades. The most critical point to understand clearly here is that rough milling or even the finishing processes (not supplied by Toshiba) does not make propellers quieter. The great advance made by the Soviets was achieved when they got the design not the machinery.

The next logical question is how much did the Soviets gain specifically from the use of the Toshiba machines.

Soviet submarines became noticeably quieter starting in the late 70's with the Victor III class submarine. By July 1983 the Akula, Mike and Sierra class submarines were launched according to "The Guide To The Soviet Navy" and "Janes' Fighting Ships". Toshiba did not sell the units until 1983-84. Realistically the benefits from these machines has only begun to be realized in the last 1 or 2 years. (Software was not available to operate the machines before then.) The press and congressional reports are truly mixing up the facts in this area. They cite great improvements in the Soviet submarine starting in the early 80's. They are correct in the observation that the Soviets made great progress. But, the logic to relate the Soviet advancements in the early 80's to the Toshiba sale is chronologically incorrect. The degree to which the Toshiba machines may have contributed to the Soviet advancement is small compared to the many other contributing factors.

5) The real damage was done by the U.S. Navy based Walker Spy Ring. A fact that has been obscured by all of the pumped up press about the Toshiba sale. The Walkers were feeding the Soviets secrets for many years. The real secrets were:

- A) How our sound detection system worked.
- B) Identification of the many noises to be reduced.
- C) The scientific data, design and process reference the areas for improvement.

The Walkers gave it all away! The Walkers identified the different noise problems for the Soviets. In the case of the propellers the design (our design) was given away.

I submit to you to check these points out carefully. You will find them to be accurate. The conclusion must be that the Toshiba sale has had a very minimal impact on the U.S. national security. The Walker Spy Ring has had an immense negative impact on the U.S. national security. One U.S. Navy officer is quoted as saying that the new class of Soviet submarine should be called "The Walker".

CIRCUMSTANCES & PROBLEMS

A) The U.S.A. has been involved in the sale of very sophisticated technology and machinery to Russia through some leading American companies. I cite a few examples:

- 1) The Bryant Company of Springfield, Vt. sold highly sophisticated bearing race grinders to Russia. This allowed the Russians to achieve the highly accurate and finished parts that were unattainable for them previously. Without these machines Russia would be 20 years behind us in rocketry and guidance systems. The sale was illegal. What was the punishment to Bryant Company? How did it happen? How do they get spare parts?
- 2) The Gleason Works Co. (Rochester, N.Y.) sold highly sophisticated curvic coupling grinders to the Soviets. How did this happen? What was the punishment?
- 3) There are IBM mainframe computers operating in Russia. How did they get there? How do they get spare parts? What was the punishment?

We must be certain not to have a double standard, leniency for our companies and a death blow to foreign companies for the same activity is bad policy. This leads to the next point.

B) The U.S. Congress would set a very dangerous precedent by banning Toshiba products for 2 years. Let me cite another example.

If a group of executives from General Electric Co. sold a product that violated international law and negatively impacted our allies in West Europe, what would we think if the Europeans met and decided to ban all General Electric products for 2 years? Think about it. It could happen. If a General Electric design turbine is found to be on the new Soviet submarines, what will the U.S. response be?

Who supplied the Soviets with many others significant pieces of hardware and machinery to accomplish such great gains?

C) There are thousands of companies in the U.S.A. using Toshiba products. Service and spare parts are a daily necessity. It is unfair and there would be a great cost to U.S. industry if the Toshiba companies operating in the U.S.A. are crippled by the ban.

D) There are 5000 people in the U.S. directly employed by Toshiba's American companies. They will lose their jobs. Thousands of others are indirectly employed (e.g. sales agents and representatives.)

E) There are thousands of workers in Japan who would lose their jobs unfairly. (Maybe some Americans would like to see this but I am not one.)

A quick comment here on the U.S.A. trade deficit problem. Certainly Japanese companies have taken advantage of the U.S.A. high dollar which started to elevate in late 1978 and soared in the early 80's and was greatly over valued until just recently. Japan has practiced mercantilist policies and targeted vulnerable U.S. industries as did the West Germans and all of our other allies. I think that one must understand at least 2 major points.

i) Japan had a trade imbalance for over 30 years until 1978.

ii) It was the soaring U.S. dollars that solely is accountable for the flood of imports into the United States and the decline of some mature U.S.A. industries. Had our fiscal and monetary affairs been responsibly managed the damage caused by the 81/83 recession and the high dollar could have been avoided.

My company suffered dramatically in that period and I do not blame Japan. I blame bipartisan mismanagement in Washington D.C.

CONCLUSION

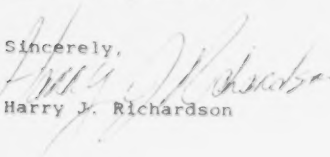
I am very skeptical about the motives behind the drama and media spin put on the Toshiba sale story. At the beginning of this paper I pointed out 3 unrelated topics. I believe that certain individuals are trying to ignite these issues by distorting the facts about this sale and taking advantage of fashionable anti-Japan sentiment to suit their own ends.

Let us address our trade deficit, defense budget and allied defense issues straight on. Only by this method do we stand a chance of solving them. By misrepresenting and mixing the facts we will realize an incorrect and unjust policy that will in the short run and the long run hurt the financial and defense interests of the United States.

In conclusion then our policy should be:

To allow the sovereign Japanese government alone to deal with Toshiba Machine Co. and the responsible individuals. The sale of the machine to Russia is a serious offense. Yet it can be demonstrated that it is not the major factor contributing to the Soviet advance. Gaining the design was the great advance. If the U.S. wants damage reparation or other concessions it should pursue these through the proper diplomatic and legal channels established for these purposes. The legislative branch of our government should not act on this matter. Politicizing and confusing this serious issue with other very important matters is a mistake. The atmosphere surrounding any issue involving Japan is too emotionally charged at this time for Congress to act fairly. Ask yourself, if it was a West German or an English company how would the U.S. deal with the issue? The Congress should leave the issue at the door of the President, the lawyers and the diplomats.

Sincerely,


Harry J. Richardson


Scientific Micro Systems, Inc.

339 North Bernardo Avenue
 P.O. Box 7777
 Mountain View, CA 94039
 (415) 964-5700
 TWX: 910-379-6577

Charles A. Mathews
 President, Chief Executive Officer

July 16, 1987

The Honorable Dan Rostenkowski
 House Committee on Ways and Means
 U.S. HOUSE OF REPRESENTATIVES
 Rayburn House Office Building, Room 2111
 Washington, DC 20515

VIA TELEGRAM

My Dear Mr. Rostenkowski:

The adoption of legislation that would prohibit the importation of goods into the United States by Toshiba Corporation (Toshiba), its affiliates, or by others if such goods were in whole or part manufactured by Toshiba, would be very damaging to Scientific Micro Systems, Inc. (SMSI), its shareholders, employees, suppliers and customers.

SMSI purchases application specific integrated circuits (ASIC's) from Toshiba that are an essential component of much of the products assembled by SMSI in Mountain View, California. An ASIC is a semiconductor manufactured by a fabrication house (such as Toshiba) to the unique design of a company such as SMSI. An ASIC incorporates into one semiconductor device the functionality otherwise performed by many individual (or discrete) semiconductors. As such an ASIC offers advantages of cost, performance and printed circuit board space. Because it is a special and unique design, it cannot be obtained from some other company (or fabrication source) without redesign to the process rules of the new fabrication house. This redesign process takes considerable time.

If SMSI were unable, as a result of legislation, to purchase the ASIC's it presently buys from Toshiba, it would not be able to assemble a large part of its product range until such time as it had redesigned the components and secured an alternative fabrication source. In the six months those actions would take, SMSI would experience an extreme financial hardship adversely affecting the interests of its more than 1,000 shareholders and of its 650 employees. The businesses of the customers and suppliers of SMSI would suffer comparable disruption.

I respectfully draw these facts to your attention so that you may be aware of the severe damage to the U.S. economy, this Company—its shareholders, employees, suppliers and customers that would result if the Congress were to adopt legislation that were to prevent the importation of ASIC devices manufactured by Toshiba.

Very truly yours,

Charles A. Mathews

JAMES G. SHAW III
585 North Sycamore Avenue
Fullerton, California 92631

July 14, 1987

The Honorable Daniel Rostenkowski
Chairman, Ways and Means Committee
House of Representatives
Sam Rayburn Office Building
Washington, D.C.

Dear Congressman Rostenkowski:

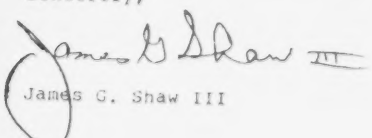
I am writing to you today because of my concern over proposed punitive legislative action being considered in the Congress against the Toshiba Corporation. I believe that some over-reaction may be taking place, perhaps due to the feeling that our balance of trade status may be improved by this type of action, in the form of prohibitions against this firm. I have read from various media sources about the actions that Toshiba Machine Company and Konigsberg took when they sold very high technology equipment to the Soviet Union. These concern me, but I am also concerned about an over-reaction on the part of our legislature.

I have read that it is under consideration that a penalty or prohibition be applied against Toshiba Corporation, and any other firms owned by Toshiba within the United States. This can have a serious impact with regards to employment or the business relationships that may tangentially be involved. It is my understanding that Toshiba, and Toshiba America Corporation, have extensive networks within the United States that provide medical equipment, electronics and electronic technology material, business equipment and business computing equipment, as well as other items. To those that have purchased these items because they offered the best solution for their own business or health operations requirements I believe that any penalties or prohibitions against Toshiba America would be very harmful. I am greatly concerned about an over-reaction that can have a "shock wave" effect to the downstream users.

It is my understanding that the sales that were made by Toshiba Machine and Konigsberg were made in violation of Japanese and Norwegian law but not United States Law. Exports to eastern block countries have not been uniformly enforced in my view, and to select this time to apply punitive actions with a broad brush appears to me to be ill conceived.

I believe that any legislation or considered ban by the Congress is unfair to Toshiba America and Konigsberg. I would like to urge you to vote against any such action. I would appreciate your consideration of the fact that corrective measures appear to be underway within the two countries. I would strongly urge you to consider the true situation and calm the situation rather than inflame it. The net impact on America would be far worse if punitive legislation is authored, passed and enacted. Please vote against any such legislation.

Sincerely,


James G. Shaw III

9 Skipper
Irvine, California 92714-1938

July 17, 1987

Hon. Dan Rostenkowski
Illinois-08th District
The House of Representatives -2111 RHOB
Washington D.C. 20515

Re: Toshiba Import Ban

Dear Congressman:

The prevailing lynch mob mentality of our Congress is abhorrent. No one is denying the atrocious acts of Toshiba Machine Company; however, please bear in mind that the activities of Toshiba Machine are in no way related to those of Toshiba America. Banning imports from Toshiba Corporation in Japan will result in the loss of livelihood for 4,000 innocent American citizens employed by Toshiba America.

Toshiba Corporation is a very powerful conglomerate that will survive your proposed importation ban. Toshiba America probably will not. Why sacrifice American citizens unnecessarily? Please look to your conscience when it comes time to vote on the trade bill. There has to be a more just and equitable method of punishing Toshiba Machine Company.

I am sure that your sense of American fair play will result in your casting only a "no" vote on this proposal.

Sincerely,

Barbara A.K. Smith
Barbara A.K. Smith

413 Conduit Drive

Minneapolis, Minn

13 July 1957

Stanislaw Jan Rostenkowski

Illinois Eighth District

House of Representatives

2111 R H O B

Washington, D.C. 20585

Dear Sir-

There is one American who would not like to see our government succumb to the journalistic propaganda against Toshiba America.

If unbiased coverage had been given the true picture, a subsidiary would have been the headline instead of Toshiba Inc.

Can not the W & I use a reasonable action to protect some 200,000 U.S. employees and customers?

Hopefully we would know the baby out with the bathwater or eliminate a foreign parent because of an erring child.

Respectfully,

Joseph R. Loveney

SYSCOM

8821 Gulf Drive/P.O.Box 30157/Raleigh, NC 27622/919-783-9000

July 23, 1987

Hon. Dan Rostenkowski
Illinois - 08th District
The House Of Representatives
2111 RBOB
Washington, D.C. 20515



Dear Sir:

As the owners of a small business engaged in the sales and service of Toshiba Telecom's products, I must protest the over zealous manner by which some members of the congress have campaigned to pass unfair legislation designed to unduly punish American business. Should this legislation pass, it will surely put me and many of my fellow Toshiba Telecom dealers (over 450 nationwide) out of business, as well as cost many innocent American's their jobs.

Surely legislation, having such devastating effect on American business and employees, is not in the best interest of America, our economy and citizens. I therefore ask you to take a responsible position regarding the issues surrounding the Toshiba Machine Company incident to prevent an already regretful situation from becoming disastrous.

Sincerely,

Syscom, Inc.

Michael L. Lynch
Michael L. Lynch

Don Carlough
Don Carlough

TOSHIBA

TOSHIBA AMERICA, INC.

INDUSTRIAL ELECTRONICS BUSINESS SECTOR

Copier Products Division
8735 W. Higgins, Suite 450
Chicago, Illinois 60631

Telephone (312) 380-6000
FAX (312) 380-8077

July 10, 1987

Mr. Dan Rostenkowski
Illinois - 8th District
The House of Representatives
2111 RHOB
Washington, DC 20515

Dear Mr. Dan Rostenkowski:

I understand that your committee is considering a ban on the import of Toshiba Products into the U.S.A. the effects of such a ban on the U.S. workforce and economy may not be obvious and should be seriously considered:

Toshiba directly employs approximately 4,000 U.S. citizens in this country and through several thousand Toshiba Dealers throughout the U.S. ten of thousands of jobs may be affected or eliminated. The vast majority of these jobs are in sales, marketing, and maintenance of Toshiba Products.

In excess of \$3.2 billion worth of Toshiba Products are delivered in the U.S. each year.

Toshiba Corporation is a major importer of U.S. made products into Japan and has been making many efforts to reduce the U.S. / Japan trade deficit. We should be trying to build relationships with them, not destroy what already exists.

On a more personal level, my livelihood (and those of my employees) could be seriously jeopardized if restrictive legislation were passed.

Toshiba Corporation has already taken harsh measures on the Toshiba Machine issue.

The Chief Executive Officer of Toshiba Machine Company was forced to resign his position.

Several key management people of Toshiba Machine Company were also forced to resign.

The divisions of Toshiba Machine Company that engaged in exports to communist countries have been eliminated.

I sincerely hope, that as an elected official of this country you will investigate and study this situation thoroughly and then take the appropriate action and vote against any ban of Toshiba Products. Again, that action will protect the jobs of thousands of Americans and ensure free trade, a concept on which this country is based.

Thank you for your consideration.

Sincerely,

Paula Calderini

Paula Calderini
Sales Training Secretary
Midwest Region
TOSHIBA AMERICA, INC.
COPIER PRODUCTS DIVISION

Toshiba Letters For the Record

IDENTICAL OR SIMILAR LETTERS TO ABOVE RECEIVED BY:

- Mr. Michael G. Moffett, General Manager, MWB Copy Products, Victorville, Calif.
- Mr. John Maiorano, President, Bouton's Business Machines, Inc., Nanuet, N.Y.
- Ms. Jacqueline Porter, Bookkeeper, Pactel Business Communication Systems, Portland, Ore.
- Mr. Evan Jenks, President, Pactel Business Communication Systems, Portland, Ore.
- Mr. Larry B. Denison, V.P. and General Manager, J. Livingston Company, Chicago, Ill.
- Mr. Rick Michaels, Owner, Michael Business Machines, Bellingham, Wash.
- Mr. Bob Vigil, Business Telecom, Medford, Ore.
- Mr. Ronald J. Tremblay, President, R. Services, Inc., Anaheim, Calif.
- Mr. John L. Poppen, Chairman, DiNamic Copy Corporation, Rolling Meadows, Ill.
- Mr. Steven D. Staller, President, Copyco Inc., Deerfield Beach, Fla.

July 9, 1987

Mr. Robert J. Leonard
CHIEF COUNCIL
Committee on Ways and Means
U.S. HOUSE OF REPRESENTATIVES
Room 1102
Longworth House Office Building
Washington, D.C. 20515

The Honorable Robert J. Leonard:

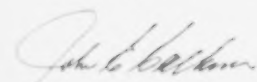
As just one (1) of the approximately 4000 loyal and patriotic Americans who are employed by Toshiba America, Inc., and who are totally dependent on this company for our income, I must ask and would like to know, what the Federal Government will do to help us if the pending legislation in both the House of Representatives and the Senate, which would bar Toshiba from exporting to the U.S.A. for a minimum period of two (2) years, would become law. For instance will you help us to:

- Feed and cloth our families?
- Send our children to college?
- Help us with our mortgage obligations or our rents?
- Pay our taxes?
- Support us in finding comparable employment with another company?

Perhaps there are some retributions due from Toshiba, but must these come from American citizens who have done nothing, but to merely work for a Japanese company? I think it is time for Congress to look at cause and effect relationships of any action that might be taken---4000 people on the unemployment rolls is not a pretty picture to contemplate. Why is Congress seemingly interested in punishing many of your constituents?

I look forward to your advice.

Sincerely,



John E. Calkins
704 Skye Lane
Barrington, Illinois 60010

MAILGRAM SERVICE CENTER
MIDDLETOWN, VA, 22645
12AM

Western Union Mailgram 

4-0149733193 07/12/87 ICS IPHMYZZ CSP MH88
3149687549 MH88 TDMY ST LOUIS MO 229 07-12 0642P EST

HONORABLE DAN ROSTENKOWSKI ILLINOIS 8TH
DISTRICT
HOUSE OF REP. 211RHO8
WASHINGTON DC 20515

I BELIEVE YOUR COMMITTEE IS CONSIDERING A BAN ON IMPORTING TOSHIBA PRODUCTS. TOSHIBA EMPLOYS ABOUT 4,000 U.S. CITIZENS. ALSO SEVERAL THOUSAND TOSHIBA DEALERS EMPLOY MANY THOUSANDS. THEREFORE, THOUSANDS OF JOBS COULD BE AFFECTED OR ELIMINATED DUE TO SUCH A BAN.

TOSHIBA HAS BEEN MAKING AN EFFORT TO REDUCE THESE U.S. JAPAN TRADE DEFICITS BY BUILDING THEIR PRODUCTS IN THE UNITED STATES.

TOSHIBA HAS ALREADY TAKEN PUNITIVE ACTION REGARDING THE TOSHIBA MACHINE COMPANY ISSUES.

THE CFO OF TOSHIBA MACHINE COMPANY WAS FORCED TO RESIGN.

SEVERAL KEY MANAGERS WERE FORCED TO RESIGN.

THOSE DIVISIONS OF TOSHIBA MACHINE COMPANY WHO SOLD TO COMMUNIST COUNTRIES WERE ELIMINATED.

ALSO, THE MANAGER RESPONSIBLE FOR THE SALE OF MILLING MACHINES TO THE SOVIETS HAVE BEEN SO CHARGED AND JAILED BY THE JAPANESE GOVERNMENT.

I REQUEST THAT YOU INVESTIGATE THOROUGHLY BEFORE VOTING. I BELIEVE THAT A VOTE AGAINST A BAN OF TOSHIBA IMPORTS IS APPROPRIATE BECAUSE:

1. TOO MANY U.S. JOBS ARE AFFECTED.
2. A BAN IS AN INAPPROPRIATE RESPONSE TO THE TOSHIBA MACHINE CO. ISSUE.
3. A NO VOTE INSURES FREE TRADE, ONE OF AMERICA'S FUNDAMENTAL CONCEPTS.
4. HUNDREDS OF THOUSANDS OF U.S. CONSUMERS DEPEND ON AND ENJOY TOSHIBA PRODUCTS.

THANK YOU FOR YOUR CONSIDERATION.

D. M. JOHNSON, CENTRAL REGIONAL MANAGER TOSHIBA I.S.D. 11497 OLD CARTN ROAD NO. 200 ST. LOUIS MISSOURI, 63141

18143 ERT

MGMCOMB: RETURN BY MAILGRAM MESSAGE. SEE REVERSE SIDE FOR WESTERN UNION'S TOLL FREE PHONE NUMBERS

TOSHIBA MEDICAL SYSTEMS

A DIVISION OF TOSHIBA AMERICA, INC.

July 14, 1987

Robert J. Leonard, Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
Room 1102 Longworth House Office Building
Washington, D.C. 20515

Gentlemen:

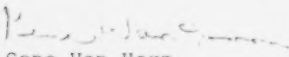
Please consider carefully your actions. I am a veteran and taxpayer. I am 53 years old, and I have never drawn a dime of unemployment payments and I also have worked for Toshiba Medical Systems for 11 years. Every item that I sell is made in Japan. If your Bill becomes law, how do I stay gainfully employed by Toshiba Medical Systems?

I have no problem punishing Toshiba Machine Tool Corporation. I do have a problem with your punishing Toshiba Medical Systems. We have done nothing wrong. Please do not "throw out the baby with the dish water". If a member of Congress did some "horrible act" would it make sense to vote out all the members?

Please consider the effect your Bill could have on the efforts of people like Governor Ed McWherter of Tennessee, who is courting Japanese business with a trade mission to Japan October 4-6, 1987.

Thank you for consideration of this letter.

Sincerely,



Gene Van Horn
Sales Manager

GNH/cw



State of Tennessee

NED McWHERTER
GOVERNOR

July 10, 1987

Mr. Gene Vanhorn
Sales Manager
Toshiba Medical Systems
3930 Vantech - Suite 1
Memphis, TN 38115

Dear Mr. Vanhorn:

I would like for you to be a part of the Tennessee delegation to the Japan/U.S. Southeast and Southeast U.S./Japan Associations joint meeting in Tokyo this fall. The meeting will be held October 5-6, preceded by an opening reception and Tennessee delegation meeting on Sunday evening, October 4.

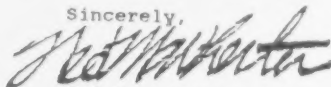
Commissioner Carl Johnson, Department of Economic and Community Development, will be in touch with you soon with more details of the meeting. Meanwhile, please determine if your schedule will permit you to attend and mark your calendar.

This twelfth joint meeting of the two associations will provide a valuable forum for discussion of investment and trade opportunities and the economic outlook, as well as further strengthening the bonds of friendship which help us meet goals that are mutually beneficial.

The growing Japanese presence in Tennessee means that our state is a choice place to live and do business. Japan's \$1.3 billion investment in Tennessee, with 53 operations as of this writing, means more than 9,000 jobs for Tennesseans and additional business opportunities for Tennessee's existing industries. The nine new Japanese operations that have announced in the first six months of this year are welcome signs that we are building with success on the strong relationship between the Tennessee and Japanese business communities.

I hope that you can be among the business and community leaders that make up the Tennessee delegation in Tokyo for this important meeting. Tennessee needs your help to keep it growing in directions in which all of us can be proud.

Sincerely,



Ned McWherter

NM:jgm

July 16, 1987

Robert J. Leonard
Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
Room 1102
Longworth House Office Building
Washington, D.C. 20515

Dear Sir:

I am an American and taxpayer who is employed by Toshiba Medical Systems and have been for seven (7) years. I feel the actions to prohibit the importation of goods from Toshiba is unjust. What Toshiba Machine Tool Corporation of Japan did was wrong. It was very seriously wrong, but I do not feel the American employees of Toshiba should suffer. You are asking the very people who put you in office to suffer with the loss of their jobs.

If this comes to pass, should not the Senate and Congress pay for what Col. North and Adm. Poindexter did? Or is it any more wrong to make the Senate and Congress pay by way of their jobs for President Reagan's agreeing to sell arms to Iran? That is endangering the lives of the American people more so than what Toshiba of Japan did.

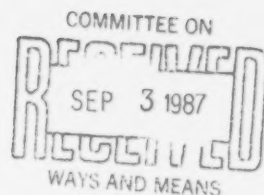
Toshiba here in the United States has suffered greatly with all the bad publicity. Toshiba Machine Tool Corporation does deserve to be punished, but there is not a division of the corporation in the U.S. If we are to suffer for what a division of Toshiba in Japan did, then why not make the Senate and Congress pay for the errors of the President and Col. North and Adm Poindexter. It is just as logical.

Sincerely,

Cathy Wortham

Mrs. Cathy Wortham
Sales and Service Secretary

CW



August 28, 1987

The Honorable Dan Rostenkowski
2111 RHOB
Washington, DC 20515-1308

Dear Representative Rostenkowski:

In the very near future, you will be deeply involved in conference to resolve the final language of the submitted Senate and House version of the "Trade Bill". The outcome from conference may, from singular and plural terms, have a great effect on not only myself and family, but thousands or more of United States Citizens and perhaps the whole Nation.

In singular terms; as an executive with TOSHIBA AMERICA, INC., I am very concerned that my career and livelihood may be drastically affected by a Congressional action taken that is designed to punish and set as an example, the numerous failings of all COCOM participants over a many year period of time. Also, within the singular term aspect, my grave concern extends to my four thousand fellow TOSHIBA AMERICA, INC. employees (U.S. citizens) and their families, and yet beyond to the hundreds of thousands of private individuals and companies that sell and service TOSHIBA made equipment.

Debate will continue for many years as to the effects of the illegal sale of machine technology to the Soviet Union by a few greedy individuals employed by TOSHIBA MACHINE COMPANY, LTD., KONGBERG VAAPENFABRIK, WAKO KOEKI, and C. ITOH. As a Vietnam Era Veteran attached to an anti-submarine warfare VP squadron in the United States Navy, I, on absolute principle, condemn these individuals' actions. But being somewhat experienced in ASW, with its numerous means for submarine detection and also being of that generation that experienced the Vietnam debacle, Watergate, the Iran-Contra Affair, and innumerable other government abominations, I seriously doubt the actual affect so stated by Representatives' Hunter and Wilson in their so-called expert testimony before Congress.

Furthermore, in this historic year for our Constitution, is not the anti-TOSHIBA legislation questionable as being Ex Post Facto? And, being it may affect an American Corporation: TOSHIBA AMERICA, INC. and many thousands of U.S. Citizens, is it not truly a Bill of Attainder?

In a plural sense, a TOSHIBA ban sets a very dangerous precedence for the future. We live in a multi-national corporate world. If parent corporations and other subsidiaries can be held in absolute terms, accountable, for unknown illegalities perpetrated by individuals in a foreign or domestic subsidiary, then what is to become of the multi-national corporate world. Government retaliation, both here and abroad, may stifle and degrade international business relations. Is this what Congress wants? I doubt it.

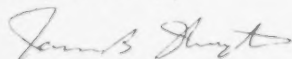
Although I am deeply and personally involved with the TOSHIBA aspects of the proposed Trade Bill, my deep concern is not only directed at those aspects. Many parts of the proposals that you will be studying and re-writting in conference smack with an isolationist and protectionist arrogance not seen since the early nineteen thirties. Our arrogance then, helped to precipitate a belligerence amongst nations. History has written that we, the United States, were somewhat guilty in fueling the fires that eventually led to World War II.

What now? A military war? No, but if a Trade Bill is adopted by Congress that is perceived by the other producing nations of this world as isolationist and protectionist, then we may very well be in for an economic war of staggering proportions.

Please consider this, as you participate in this all important "Trade Bill" conference. You share an very large responsibility to the Nation in seeing that calmer heads prevail and that the forthcoming legislation is fair and long term in scope. The economic future of this Nation is in your hands.

Thank you very much.

Respectfully,



James B. Wright
Director - United States Dealer Sales
TOSHIBA AMERICA, INC. - I.E.B.S.
Telecommunication Systems Division
5258 Ashley Drive
Lilburn, GA 30247

STATEMENT OF TOSHIBA CORPORATION

Toshiba Corporation respectfully submits this statement for inclusion in the record of the Ways and Means Trade Subcommittee hearing of July 14, 1987. Toshiba Corporation has general comments which we wish to share with the Subcommittee as well as specific responses to statements made during the hearing.

Toshiba Corporation not only understands, but emphatically agrees with the views of the United States Congress, the Administration and the Japanese Government that the Toshiba Machine Co. sales of special milling machines to the Soviet Union are reprehensible acts. This diversion compromised the security of Japan as well as the United States, as Prime Minister Nakasone said so forcefully in addressing the Diet (Japan's Parliament) a few days ago.

Toshiba Corporation also concurs with the views expressed by Congress, the Administration and the Japanese Government that the objective in responding to these unconscionable acts must be to punish the wrongdoers to the fullest extent of the law and to take action to prevent their recurrence.

There is also no dispute that in order to prevent future violations there must be: 1) a strengthening of export control laws; 2) establishment of a stronger export administration mechanism; 3) a greater commitment to COCOM activities; and 4) a greater awareness in Japanese industry of the importance of compliance with export control laws and implementation of comprehensive company-specific compliance programs.

The only difference of views is in how to achieve the fourth and last step in the process, that is industry awareness and compliance programs. Some members of Congress seem to believe that the best way to achieve this goal is to enact punitive, retroactive legislation which punishes not only the guilty party but the innocent parent as well. Putting aside Toshiba's own reaction to this, it must be said that such legislation regrettably is having the unintended and opposite effect in Japanese business circles. There, the feeling is that such unfair legislation must arise more from trade frictions than security concerns.

In contrast, Toshiba believes that the way to achieve the agreed goal is to take advantage of the lesson that Toshiba Corporation has learned and use it to create a model compliance program in cooperation with both the U.S. and Japanese Governments and to promote this throughout Japanese industrial circles.

As we expressed in our letter to members of Congress of July 12, 1987, Toshiba Corporation deeply regrets the Toshiba Machine sales to the Soviet Union and condemns these actions. Toshiba Corporation is fully aware of the dangerous impact that this incident has had on the security of the United States, Japan and the West and on our bilateral relations in general. Toshiba Corporation is committed to taking all possible action to insure that it never happens again and we believe that the guilty parties should be prosecuted to the fullest extent of the law. Toshiba Corporation wishes to assure Subcommittee members that it intends to continue its efforts to cooperate with the United States and Japanese Governments to strengthen government and industry national security export controls. However, Toshiba Corporation is very concerned that our efforts will be severely undermined if the United States Congress enacts punitive, retroactive measures designed to inflict punishment rather than to encourage greater adherence to national security export controls.

SPECIFIC RESPONSES

A number of comments were made during the hearing concerning the corporate relationship between Toshiba Corporation and Toshiba Machine. Although Toshiba Corporation has a 51% ownership interest in Toshiba Machine, Toshiba Machine is an independently operated subsidiary. Toshiba Machine is one of 666 direct and indirect subsidiaries or affiliates of Toshiba Corporation. Toshiba Machine, has no direct relationship with any business sector of Toshiba Corporation and is supervised by the Affiliated Company Division of Toshiba. Therefore, the only organizational relationship between Toshiba Machine and Toshiba Corporation is through the Affiliated Company Division. The oversight or supervision by the Affiliated Companies Division is not to day-to-day business activities, but to the financial performance of the subsidiaries or affiliates. That oversight is designed to protect Toshiba Corporation's investment position. Therefore, Toshiba Corporation was not involved in the day-to-day operations of Toshiba Machine.

The basic policy governing Toshiba Corporation's relationship with its subsidiaries and affiliates was enunciated in 1976 by then Chairman Doko. That policy, in essence, is that the affiliates and subsidiaries will maintain an independent existence rather than have a master-servant relationship with Toshiba Corporation. The management of the Affiliated Company Division of Toshiba Corporation is not responsible for administration of the affiliates; only for liaison.

We also wish to clarify that Toshiba Corporation and Toshiba Machine did not and do not now have overlapping or interlocking Boards of Directors. Therefore, it is not accurate to say that a decision made by TM's Board of Directors would also be approved by or within the knowledge of Toshiba Corporation's Board. There are three Toshiba Machine Board members who are former Toshiba Corporation employees. Two of these Board members terminated their relationship with Toshiba Corporation prior to being hired by Toshiba Machine and they had no continuing relationship with Toshiba Corporation once they were employed by Toshiba Machine. The third Board member who was a former Toshiba Corporation employee was the senior auditing official that was recently installed on Toshiba Machine's Board of Directors as part of the remedial measures Toshiba Corporation is taking to prevent future misconduct by Toshiba Machine.

A statement was made during the hearing that Toshiba Corporation "kept the profits" from the Toshiba Machine sales of milling machines to the Soviet Union. This is not correct. The proceeds from the diversionary sales went directly to Toshiba Machine and not Toshiba Corporation because Toshiba Corporation is only a majority shareholder and is not involved in either Toshiba Machine's operations or transactions.

As part of its punishment for the wrongful sales Toshiba Machine has been barred from exporting any products to the Soviet Union for one year and we directed it to suspend its sales to the Soviet Union indefinitely. Toshiba Corporation also directed it to terminate the division within Toshiba Machine that handled exports to the Soviet Union. The losses that will be inflicted on Toshiba Machine as a result of this export ban in the first year alone will be \$36 million, twice the total value of the Toshiba Machine sales of the 9-axis machines to the Soviet Union which is approximately \$17 million.

A number of statements were made during the hearing concerning the corporate responsibility of Toshiba Corporation for the actions of Toshiba Machine. Neither the United States nor the Japanese Governments have asserted that any of Toshiba Corporation's officers or directors knew or participated in the

Toshiba Machine sales. We have also previously explained our corporate structure and described the independence of Toshiba Machine in its day to day operations. Because of the grievous nature of Toshiba Machine's conduct, and despite our lack of involvement, Toshiba Corporation, as majority shareholder profoundly apologizes for these past actions of the subsidiary, Toshiba Machine. Toshiba Corporation has assumed clear moral responsibility for the future and is making every effort to ensure that such actions never happen again.

On July 1, 1987 as a further expression of personal remorse, despite their lack of involvement or responsibility for the Toshiba Machine incident, Mr. Saba, former chairman of the Board of Toshiba Corporation and, Mr. Watari, former President of Toshiba Corporation resigned. Although this act in terms of Japanese culture is the highest form of apology, it has been repeatedly misunderstood in the United States as an admission of guilt which it is not.

Statements were also made during the hearing that Toshiba Corporation was not sufficiently apologetic for the incident and did not seem to be aware of its gravity. Toshiba Corporation has made repeated public statements condemning the actions of Toshiba Machine and expressing its deep regret. Our July 12, 1987 letter to every member of Congress expressed our deep regret that the incident occurred and outlined the actions we have taken in response, including the publication of an apology to the American people. Toshiba Corporation has included a copy of that letter and respectfully request that it be included in the record along with this statement. In a statement at the time of the annual Shareholders Meeting, June 26, 1987, the President of Toshiba Corporation expressed his deepest regret and condemnation of the diversionary sales. This statement was included in our submission of July 14 to Chairman Gibbons in connection with this matter.

As an indication of Toshiba Corporation's commitment to make every effort to ensure that the wrongdoers are punished and that this incident never happens again it has taken the following actions:

- o Obtaining the resignations of the President of TMC and the three other Board members who had corporate responsibility for the conduct of those TMC employees actually involved.
- o Authorizing an extensive investigation to find all the facts concerning TMC's actions and to design safeguards to prevent repetition of such conduct. This investigation is being directed by American counsel, assisted by a major independent accounting firm.
- o Discharging all officers and employees found to have knowingly participated in the wrongful export sale.
- o Appointing the former senior auditing official of the Toshiba Corporation to TMC's Board with direct responsibility for Toshiba's policy of full observance of the law and of Japan's security arrangements with its allies.
- o Developing a rigid compliance program in cooperation with the Governments of Japan and the United States.
- o Toshiba Corporation also intends to establish its new compliance program as a model for all future export controls throughout Japanese industry.

Toshiba Corporation intends to implement these measures in full cooperation with the Governments of the United States and Japan. Of equal importance, Toshiba Corporation intends to do

our utmost to encourage Japanese industry to implement meaningful compliance programs and to promote strict observance of export control laws and regulations. Toshiba Corporation believes that these measures along with the measures which will be implemented by the Japanese Government to strengthen export control laws and administration, and to enhance multilateral controls through COCOM will provide an effective deterrent to future violations.

Finally, Toshiba Corporation wishes to respond to a statement made during the hearing that it contacted the Japanese Government to request that its investigation into the Toshiba Machine incident be delayed. Toshiba Corporation did not request such a delay nor did it in any way attempt to hinder the Japanese Government's investigation.

CONTACT PERSON: David P. Houlihan, Mudge Rose Guthrie Alexander & Ferdon, 2121 K Street, N.W., Suite 700, Washington, D.C. 20037
(202) 429-9355

Mudge Rose Guthrie Alexander & Ferdon, 2121 K Street, N.W., Suite 700, Washington, D.C. 20037, is registered under the Foreign Agents Registration Act as an agent of Toshiba Corporation for the dissemination of this document. The material is filed with the Department of Justice, Washington, D.C., where the registration statement is available for public inspection. Registration does not indicate approval of the contents of this document by the United States Government.

July 12, 1987

Dear Congressman :

As recently appointed President and head of the new management team at Toshiba Corporation, I am writing to express my deepest regret and apology for the actions of one of our subsidiary companies, Toshiba Machine Co. ("TMC"), in selling important national security equipment to the Soviet Union. Such an action is reprehensible in the harm it has done, to both Japan and the United States.

As you know from Administration testimony, there is no claim that the parent Toshiba Corporation, had knowledge of or complicity in this act. Nevertheless, it does not lessen its seriousness nor our responsibility to make sure it never happens again. Our company has experienced much grief and outrage over this incident and has made many changes.

I wanted to let you know that in the next few days, I will be publishing an open letter to the American people to offer our humble apology and to outline some of the steps we are taking to correct this. Among these are:

- o We obtained the resignations of the President of TMC and the three other Board members who had corporate responsibility for the conduct of those TMC employees actually involved.

- o We have authorized an extensive investigation to find all the facts concerning TMC's actions and to design safeguards to

prevent repetition of such conduct. This investigation is being directed by American counsel, assisted by a major independent accounting firm.

- o We will discharge all officers and employees found to have knowingly participated in the wrongful export sale.

- o We have appointed the former senior auditing official of the Toshiba Corporation to TMC's Board with direct responsibility for Toshiba's policy of full observance of the law and of Japan's security arrangements with its allies.

- o We are developing a rigid compliance program in cooperation with the Governments of Japan and the United States.

- o We intend to establish Toshiba's new compliance program as a model for all future export controls throughout Japanese industry.

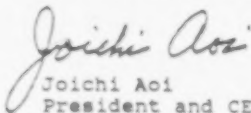
The Chairman of Toshiba Corporation, Mr. Shoichi Saba, and President, Mr. Sugichiro Watari, resigned their posts. In our culture, this act is the ultimate humiliation and apology for those in positions of responsibility. Their resignations were particularly poignant and important as an indication in our culture of the remorse we feel because their isn't the slightest indication that either Mr. Saba or Mr. Watari had any knowledge of or participation in Toshiba Machine's actions. I am enclosing the summary record of a press conference Mr. Saba conducted last week which sheds further light on the facts and his feelings in this matter.

Toshiba Corporation established its first overseas affiliate in the United States in 1965. Over these 22 years, our respect for America and confidence in the American people have continued to grow. Long before current trade frictions developed between our two countries, Toshiba felt an obligation to invest in plant facilities and jobs in the United States. The productivity and loyalty of our thousands of American employees are testimony to the wisdom of our decision to invest in America. We deeply regret that the actions of our subsidiary may have caused embarrassment to our American workers.

-3-

The alliance between the United States and Japan is essential to the Free World. All of us who have been thrust into these new leadership responsibilities at Toshiba pledge to work for repairing and enhancing this alliance in cooperation with the Governments of Japan and the United States.

Sincerely, yours,

A handwritten signature in cursive script, reading "Joichi Aoi".

Joichi Aoi
President and CEO
Toshiba Corporation

Enclosure:
Summary Record of Mr. Saba's
Press Conference

FOR THE RECORD

TOSHIBATOSHIBA CORPORATION PRINCIPAL OFFICE
11 SHIBAURA 1-CHOME MINATO-KU TOKYO 105 JAPANPHONE TOKYO 457
CABLE TOSHIBA TOKYO
TELEX 22387 TOSHIBA

July 14, 1987

The Honorable Sam M. Gibbons
Chairman
Subcommittee on Trade
Committee on Ways & Means
Longworth House Office Building
Room 1136
Washington, DC 20515-6354

Dear Mr. Chairman:

May I respectfully ask that this letter and the enclosed material be included in the Record of your Subcommittee's hearings on legislation affecting our company which resulted from the misconduct of one of our majority-owned subsidiaries, Toshiba Machine Company.

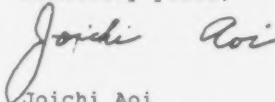
As recently appointed President and head of the new management team of the parent, Toshiba Corporation, I extend my deepest regret and apology to the Congress and the American people for the action of our subsidiary company. It is reprehensible to our nation, our company and to me personally.

The fact that the parent, Toshiba Corporation, had no knowledge of or complicity in this act does not lessen its seriousness nor our responsibility to make sure it never happens again. The grief and outrage our company has experienced over this incident have resulted in many changes being adopted to correct this as you can see in the enclosed material. Other measures are being developed in consultation with the Governments of the United States and Japan.

- 2 -

The alliance between the United States and Japan is essential to the Free World. All of us who have been thrust into these new leadership responsibilities at Toshiba pledge to work for repairing and enhancing this alliance in cooperation with the Governments of Japan and the United States.

Sincerely yours,



Joichi Aoi
President and CEO
Toshiba Corporation

Enclosures:

1. Summary of Materials.
2. June 26, 1987 Press Release by Sugiiichiro Watari, former President and CEO of Toshiba Corporation announcing Toshiba Corporation's seven point Action Program.
3. July 1, 1987, Toshiba America, Inc. release re resignations of Mr. Shoichi Saba, Chairman of the Board, Toshiba Corp., and Mr. Sugiiichiro Watari, President and CEO of Toshiba Corp.
4. Summary Record of July 10, 1987, Press Conference with Mr. Shoichi Saba.

SUMMARY OF MATERIALS ENCLOSED

Attached are copies of three public statements of Toshiba Corporation and two former senior Toshiba Executives. The first statement enclosed is a June 26, 1987 Toshiba Corporation press release announcing that Toshiba Corporation has taken a number of corrective measures with respect to Toshiba Machine including demanding the resignation of Toshiba Machine's President and other company officials involved in Toshiba Machine's wrongful conduct. The announcement states further that despite the fact that Toshiba Corporation itself has no reason to believe that any of its employees were involved in the wrongful conduct, Toshiba Corporation instituted a seven-point Action Program to discover what happened and to ensure that it never occurs again.

The second public statement included is the July 1, 1987 announcement of the voluntary resignations of Mr. Shoichi Saba, Chairman of the Board, and Mr. Sugichiro Watari, President and Chief Executive Officer of Toshiba Corporation itself. In announcing the resignations, Mr. Saba reaffirmed that neither Toshiba Corporation itself nor any of its employees, including Mr. Saba or Mr. Watari, was in any way involved in the Toshiba Machine sale. Nevertheless, Mr. Saba said that he and Mr. Watari "must take personal responsibility for not creating an atmosphere throughout the Toshiba group that would make such activity unthinkable, even in an independently run subsidiary."

The July 1 announcement explains the Action Program initiated by Toshiba Corporation and corrective measures being initiated by Toshiba Machine, including the elimination of Toshiba Machine business units engaged in exports to Communist countries. The July 1 announcement also expresses Toshiba Corporation's intent that its new compliance program serve as a model for Japanese industry.

The third document included is a summary of a July 10, 1987 press statement by Mr. Saba. Mr. Saba gave a brief statement explaining his resignation, notwithstanding the fact that no Toshiba Corporation employee or officer was involved in the Toshiba Machine incident. Mr. Saba said in the press conference that despite the separateness of Toshiba Corporation and Toshiba Machine and Toshiba Corporation's lack of involvement in the wrongful export sales, he believes that Toshiba Corporation is responsible to the extent that it was a majority shareholder and that it did not actively monitor TM's business activities. Mr. Saba stated that he and other top executives of Toshiba Corporation greatly regret the adverse impact of the Toshiba Machine incident on the security of the free world and on US-Japan relations. Mr. Saba said the extraordinary resignations of top management of the parent company was necessary in order to deepen public understanding of the seriousness of the case and to encourage Japanese industry to take steps to ensure that such incidents do not recur.

Mudge Rose Guthrie Alexander & Ferdon, 2121 K Street, N.W., Suite 700, Washington, D.C. 20037, is registered under the Foreign Agents Registration Act as an agent of Toshiba Corporation for the dissemination of this document. The material is filed with the Department of Justice, Washington, D.C., where the registration statement is available for public inspection. Registration does not indicate approval of the contents of this document by the United States Government.

June 26, 1987

FOR IMMEDIATE RELEASE

Sugiichiro Watari
President and Chief
Executive Officer

TOSHIBA CORPORATION

Re: Exportation of Milling Machines to the
Soviet Union by Toshiba Machine Co., Ltd.

It was with our deepest regret as the major shareholder, that we learned that Toshiba Machine Co., Ltd. (TMC), one of our subsidiaries, exported certain milling machines to the Soviet Union through C. Itoh & Co., Ltd., in violation of Japanese Export Control Law and contrary to COCOM regulations. As a result severe sanctions have been imposed against TMC, and TMC and certain of its employees have been indicted by the authorities.

While we have no reason to believe that anyone at Toshiba Corporation was involved in the transaction, we deeply regret and condemn such actions by a company bearing the TOSHIBA name which have caused serious anxiety to Japan's partners in the free world. We are making every effort throughout all Toshiba group companies to work out necessary measures to prevent any recurrence.

Soon after this affair became known, we demanded that the President of TMC resign and that the company institute necessary measures including personnel changes. The President of TMC resigned, followed by the resignation of three other board members who were organizationally responsible for the actions of TMC at the time of this affair. TMC also reported to us that it had taken the following measures:

- (1) Setting up a new "Export Legal Section."
- (2) Developing training programs to ensure full compliance with the law throughout the entire company.
- (3) Establishing stricter internal procedures governing exports of products.

Despite the fact that Toshiba Corporation was not involved in the affair, we have already taken the following further measures in order to find out the truth and to impress upon everyone at Toshiba Corporation and related group companies our deep concern over what has occurred, as well as our commitment to prevent recurrence in the future:

- (1) We have set up a special committee headed by me, President and CEO within Toshiba Corporation to study the TMC affair and make appropriate recommendations.
- (2) We have also directed outside American counsel to conduct an intensive investigation to determine conclusively the causes of what occurred in TMC, in order to recommend the most appropriate procedures to prevent any repetition of such disgraceful conduct.
- (3) We will secure the discharge of any officers or employees who knowingly participated in the diversionary activity.
- (4) At the Group Company Presidents' meeting, we directed each group company to institute specific measures to prevent such a regrettable affair.
- (5) We have installed one of our previous Statutory Auditors of Toshiba Corporation on the board of TMC, who will take the office of Senior Managing Director, with the specific responsibility of ensuring continuing awareness of and compliance with Toshiba Corporation's policy of full observance of the law.
- (6) We are developing a rigorous compliance program in cooperation with the Government of Japan.
- (7) We will from time to time review this compliance program by a team of experts in export control matters.

We sincerely believe that we have made efforts to contribute to the prosperity and security of the free world. We are determined to continue contributing in this way. We of Toshiba Corporation along with the companies in our group, have established through years of strenuous effort, a solid relationship with American society, reaping benefits for all, through broad, mutual co-operation. We have engaged in many and varied technical collaborations which include new jobs in the plants we have established in the United States, as well as in Japan.

Therefore, let us clearly state we are firmly determined to preserve the accomplishments derived through mutual trust and cooperation developed through our relationship with America over many years and protect it from this unfortunate incident. We pledge that Toshiba Corporation will do whatever it takes to ensure that this scandal will not be repeated.

FOR IMMEDIATE RELEASE

July 1, 1987
Toshiba America, Inc.

Mr. Shoichi Saba, Chairman of the Board, and Mr. Sugichiro Watari, President and Chief Executive Officer of Toshiba Corporation announced their resignations today in Tokyo.

The voluntary resignations were given to accept personal responsibility for the sale of milling machines to the Soviet Union by Toshiba Machine Co., Ltd., an independently-managed, 51 percent-owned subsidiary. Management of Toshiba Machine, which is 49 percent publicly-owned, has been replaced.

Toshiba Corporation itself was in no way involved in or aware of the Soviet sales which violated Japanese export control laws and Cocom regulations, Mr. Saba said. Nevertheless, according to Mr. Saba, he and Mr. Watari "must take personal responsibility for not creating an atmosphere throughout the Toshiba group that would make such activity unthinkable, even in an independently run subsidiary."

Mr. Nobuo Ishizaka, Chief Executive Officer of Toshiba America, Inc. in New York, acknowledged that the resignations of Mr. Saba and Mr. Watari may be hard to understand in American terms because neither they nor Toshiba Corporation have been charged with any knowledge of or involvement in Toshiba Machine's activities. In the Japanese business world, however, Mr. Ishizaka said this is the highest form of apology.

In conjunction with the company's annual shareholders' meeting on June 26, Mr. Watari condemned the activities of Toshiba Machine and announced steps that Toshiba was adopting to assure such activity would never happen again. Mr. Saba expressed the hope that when these actions are completed, Toshiba will regain the trust of Japan and the United States.

Yesterday, the United States Senate passed a bill with severe sanctions against not only Toshiba Machine Co., but also Toshiba Corporation and its affiliates. While Toshiba fully agrees with the Senate's condemnation of Toshiba Machine's actions, despite the fact that Toshiba was not involved in those actions, Toshiba believes that the positive, forward-looking measures being taken by Toshiba Corporation along with the punishments imposed by the Government of Japan, are a more appropriate means to respond to the interests of free world security.

Toshiba Corporation has taken several steps to insure that there will never be any repetition of such conduct. Toshiba has directed American counsel to conduct an independent investigation of the matter in order to recommend appropriate corrective action, including a specific compliance program for all Toshiba group companies. It is Toshiba's hope that this compliance program will serve as a model for Japanese industry and that the government-to-government efforts will produce important improvements in the

enforcement of Cocom regulations for the protection of the entire free world.

At the same time, Toshiba Machine has already been subjected to the most serious punishment ever imposed by MITI. In addition, Toshiba Corporation has demanded and received the resignation of Toshiba Machine's President and other officials and significant corrective measures within Toshiba Machine are underway at the insistence of Toshiba Corporation. Toshiba has pledged to secure the discharge of any officers or employees who knowingly participated in the diversionary activity. Toshiba Machine Co. is eliminating its business units engaged in exports to Communist countries. Those and other corrective measures were announced in Mr. Watari's statement on June 26, 1987.

SUMMARY RECORD

Toshiba Press Conference for Foreign Correspondents

Toshiba Headquarters Bldg.

Hamamatsucho, Tokyo,

Friday, July 10, 1987, (11:00 am to noon)

Subjects: Statement by former Toshiba Corporation Chairman (and current advisor to the company) Shoichi Saba, followed by a question and answer session.

In the beginning, Mr. Saba briefly recounted aspects of the two duly resignations; mentioned his relatively frequent trips to the U.S. (the most recent being in mid May, early June, and at the end of June); recalled his feelings during these successive visits, highlighted by a growing perception that public attitudes in the U.S. were hardening toward Japan.

Mr. Saba then stressed that: Toshiba Corporation was essentially not involved in any sense in the Toshiba Machine Co. case; and, until the matter surfaced in the media this March, management was unaware that a problem existed. He noted further that Toshiba Corporation, itself, was still unable to

examine sequestered materials whose objective evaluation would lead to a clearer understanding of circumstances.

Continuing his statement, Mr. Saba: gave some facts about Toshiba Machine Co., Ltd. including its capitalization, lines of business (i.e. machine tools, die casting machines, printing machines -- in some of which fields it is top-ranked); noted that Toshiba Corp. owns slightly less than 51 percent of Toshiba Machine; emphasized that Toshiba Machine is listed on the Tokyo Stock Exchange and is regarded as a first-class corporation (and given the earlier integrity of the company) there was no day-to-day contact with it by Toshiba Corporation executives.

Mr. Saba then noted that while Toshiba Corp. had sent part-time executives or board members to some other affiliated firms, it had not done so in the case of Toshiba Machine. He indicated that annual sales of Toshiba Machine to the Toshiba Corp. were slightly less than 2 percent.

He said that in view of the facts noted, the two companies were completely different in their operations, and that Toshiba Corporation was not directly involved in the concerned case.

At the same time, Mr. Saba stated that (while it was difficult to grasp clearly the feelings in the U.S. Congress and among some Americans on assigning blame in the matter) he felt that Toshiba Corp. was responsible to some extent for what happened, because: it is a roughly 50 percent owner of Toshiba Machine; its control or monitoring actions were weak; and it was unable to correctly carry out its obligations as the major shareholder.

Mr. Saba further indicated that he and other top executives of Toshiba Corp. felt great regret for the adverse impact the matter has had on the security of the free world, and that it had exacerbated tensions between the U.S. and Japan.

He then indicated that while it may seem strange to correspondents and others, that both the Chairman and President would resign, he felt that this was the best course of action in line with Japanese tradition. Mr. Saba further explained the cogent reasons behind the resignations and, while agreeing that some people in different cultures might not find them entirely comprehensible, they were, nevertheless, quite valid. He stressed that the resignations did not indicate in any way that Toshiba felt guilty or involved in the Toshiba Machine matter. He also felt confident that some Americans would appreciate the sincerity that was involved in the act.

Mr. Saba said, in his regard, that he had received a heartening letter three days ago from an American housewife living in Denver, Colorado. The letter had given him encouragement and illustrated his point. He gave the essence of the letter: the writer had read of Toshiba's plight in the Denver Post, greatly admired the fact that he and Mr. Watari had honorably accepted the responsibility for its subsidiary, and hoped that American executives in a similar situation would more frequently follow such a forthright example.

Mr. Saba added that the simultaneous resignations signified a great deal, but had more meaning to the Japanese, than to persons overseas. He then explained that, in Japan, top management has usually "grown up" with the company -- and functions as "the face" of the company they represent. Their salaries may not be glamorous, but their devotion to the company is unreserved.

Given these facts, Mr. Saba said, it is extraordinary that both the Chairman and President should resign at the same time -- despite the fact that the parent company had no connection with any misconduct. He said the extraordinary action was called for in this case because of the inherent grave implications for Japan/U.S. relations. The gravity of the

matter is increasingly apparent, as can be seen in this morning's newspapers, which report that Mr. Tamura is scheduled to go to the U.S. for discussions on the case. Its seriousness and impact on Japan is further evident in the government measures being pursued in relation to adherence to COCOM rules.

Mr. Saba hoped that the action taken by him and President Watari would help deepen public understanding of the seriousness of the case, as well as further encourage industry here to take strong measures to prevent similar happenings.

The first visit of Mr. Saba to the U.S. was 32 years ago, and he related that he had learned much as a result of these contacts. He added that he has many friends in the U.S.; he has done his level best to establish and maintain good relations; and he feels extremely great regret over what has happened. He also said that he would now like to help restore -- and contribute to enhancement of -- good U.S./Japan relations.

Steps that have been taken or are planned by Toshiba with respect to Toshiba Machine Co. are as follows:

1. The president has resigned.
2. Three other company executives have resigned.

3. The department linked to exports to Communist areas has been liquidated.
4. A section has been established to oversee export preparations and examine all aspects of these operations.
5. A special committee has been established to investigate the case and to identify those legally or otherwise responsible, and further steps (including dismissals) are under consideration.

Steps taken in relation to Toshiba Corp. follow:

1. A countermeasures committee has been set up.
2. Toshiba Corp. has dispatched Mr. Shiraki (Toshiba Corp.'s standing auditor) to become a member of the Toshiba Machine Board and executive vice president and examine all aspects of this matter.
3. Toshiba has formed a special investigative committee.
4. A third party (or outsider) audit was initiated on July 6th by the Price Waterhouse Co.
5. The possibility of organizing a "compliance program" for Toshiba Machine is being reviewed. Many U.S. firms have such operations and Toshiba has asked knowledgeable people to help set up such operations

- 7 -

not only for Toshiba Machine, but also for Toshiba Corp. Mr. Saba felt that this outline of what has been done, what is being done, and what will be done puts things into better perspective.

X X X

Questions and Answers

Q: Have you received information from any source, or did you have any evidence (at Toshiba Corp.) on how these exports were used?

A: We had no firm evidence, and are not now in a position to receive such evidence.

Q: If Congress passes a bill, can you estimate the losses to Toshiba? Further, what are the prospects for passage of such legislation?

A: Toshiba Corporation's sales to the U.S. account for some 10 percent of total sales. But, in addition to losses stated in momentary or business terms, Toshiba's image has been seriously damaged. This latter damage forms a large part of any loss. (At the same time, Mr. Saba did not think

that he could respond on the prospects for passage of trade bill in the U.S. Congress.)

Q: Without intending flattery, it is clear that Toshiba was surging rapidly ahead under the leadership of Mr. Saba (moving from a middle position to a top ranked one). What are your personal feelings on being forced by circumstances to resign?

A: I appreciate your kind comment. At the same time, I feel extremely sorry that the case of Toshiba Machine Co. has greatly harmed the image of the Toshiba Group. I feel great regret that, as a result of the Toshiba Machine case, the U.S./Japan relationship have been further aggravated.

As to whether I am "angry" at Toshiba Machine, I would prefer to say that I am angry at myself because we were not able to prevent this case from happening.

Q: What about the cancellation of orders in the U.S.? Are there actual cases of cancellation?

A: In the field of electrical appliances, some distributors and retailers have said they would no longer sell Toshiba products because of our lowered image. Further, people in

the medical field have declined to buy Toshiba products. We have also been informed of other such happenings.

We have also heard of cases in which the sons and daughters of people working for Toshiba in the U.S. have been harassed or treated badly.

Q: In a broader sense, how could this incident have occurred? Was it just so that more sales could be registered, or for other reasons?

A: Because we are not in a position yet to question those persons directly involved, it is difficult to give an accurate answer. The matter is now being investigated by the police. But it is undeniable that there has been a rather loose attitude toward the observance of laws and restrictions -- not only at Toshiba Machine, but also at other Japanese companies.

As for reasons to account for the strong attitudes, I don't know. But I have noted that there is some heightened sensitivity related to accumulated tensions.

Q: Can Toshiba be partly a victim of bad timing (or of worsening times)?

A: Yes, but the prevailing situation only adds to the gravity of the overall problem.

Q: Is it possible that Toshiba can expect some similar sanctions in Europe, and in this regard, what is your percentage of sales in Europe? Might there be some similar action from the European side, and would this lead to retaliation by Japan?

A: I don't think that we can expect such measures, because that might involve escalation to a trade war. It is hard to guess what results or impact this would have in Europe. Our business in the U.S. is the area that is -- and will be -- affected. The extent of what will happen depends to some extent on the content of trade legislation and whether or not the trade bill will be passed. Our sales to the U.S. currently account for 10 percent of revenue. But, on top of any trade damage, we must be prepared to spend many years in restoring our good image.

Q: You have stressed your regret in relation to the adverse impact of this matter on Japan/U.S. relations. How does this relate to the scope of your feelings in relation to the matter's impact on Western security?

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A: It is not a choice of the importance of either "A" or "B" -- both matters are very serious. But, as I tried to indicate earlier, we sincerely regret the impact of this on both Western security and Japan/U.S. relations. We further regret that the case will damage relations between and among the countries involved.

Q: Were you annoyed at the severity of the reaction? Can this be a manifestation of pent-up emotions -- a reaction and response of Americans to a broad range of matters between the U.S. and Japan?

A: Since the beginning of June, I have been greatly shocked at how this matter has accelerated. It's as if someone had poured fuel oil on a wooden house, set fire to it, and watched it grow to a big fire. I was especially upset upon seeing a telecast of the U.S. House of Representatives smashing our tape recorder with sledgehammers.



Tseng Laboratories, Inc.

10 Pheasant Run, Newtown Commons, Newtown, PA 18940 215-968-0502 Telex 705179 FAX 215-860-7713

July 13, 1987

Robert J. Leonard, Chief Counsel
Committee on Ways and Means, Rm. 1102
U.S. House of Representatives
Longworth House Office Building
Washington, DC 20515

Dear Mr. Leonard:

RE: Toshiba Corporation

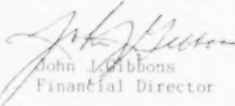
Tseng Laboratories, Inc is a small (1986 sales \$4,200,000) publically held U.S. manufacturer of computer components.

It is currently engaged with Toshiba America, Inc. in the joint development of a custom semiconductor device for use in IBM and IBM compatible computers. Many months of intensive effort have gone into Tseng's design of this device, and it is the most important product developed to date by our company. We are anticipating that this device would be incorporated into products which would account for 75 to 80% of our sales volume in 1988.

Passage of sanctions against Toshiba which would preclude or delay them from manufacturing for Tseng Labs, Inc. the jointly developed semiconductor devices would have a devastating impact on Tseng Labs, Inc. and its ability to remain competitive in an industry of giants.

While we fully understand the indignation the U.S. Senate and Congress feels over Toshiba Machine Company's actions, we hope adequate consideration is given to the effects any sanctions would have on U.S. customers for Toshiba semiconductor parts such as those being produced for Tseng Labs, Inc.

Very truly yours,


John J. Gibbons
Financial Director

JJG/11



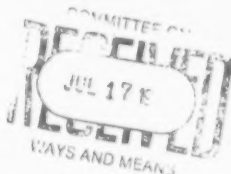
CITY OF TAMPA

Sandra W. Freedman, Mayor

WATER DEPARTMENT

David L. Tippin, P.E.
Director

July 16, 1987



Mr. Robert J. Leonard
Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
Room 1102
Longworth House Office Building
Washington, D.C. 20515

Dear Mr. Leonard:

It has been brought to our attention that the Subcommittee on Trade of the Ways and Means Committee is taking information relative to the question of import sanctions against Toshiba and Kongsberg Vapenfabrik. We recognize the serious nature of this issue. However, it is imperative that we call to your attention some information regarding Toshiba's role in providing drinking water for our community.

In 1981 the Tampa Water Department purchased seven (7) Toshiba motors and related switchgear for the Hillsborough River Water Treatment Plant. Four (4) of the motors operate finished water pumps that provide over 65% of water supply to over 500,000 customers within the Department's service area. The remaining three (3) motors operate raw water pumps that provide over 50% of the raw water for the treatment process. The motors range in size from 1,000 horse power to 200 horse power and are extremely energy efficient.

The Toshiba Corporation has been responsive to our maintenance needs and has expedited service and parts as necessary to maintain continuous operation at our facility since installation. We maintain a spare parts inventory ranging in complexity from integrated circuit boards down to basic fuses.

Should the subcommittee choose to take action in this area, we respectfully request that three issues be addressed. First, we must be able to maintain our spare parts inventory in order to ensure uninterrupted water service to our customers. In addition, we must be able to call upon Toshiba Corporation's technical expertise to assist in identifying and correcting problems associated with these pump drives and switchgear. Finally, should a complete ban be considered, we need at least two years lead time in order to find replacements.

Thank you.

Sincerely yours,

Malachi C. Bennett III

Malachi C. Bennett, III
Deputy Director
Tampa Water Department

MCB:dhs

STATEMENT FOR THE RECORD
 MR. PAUL CAPP, M.D.
 PROFESSOR AND HEAD, DEPARTMENT OF RADIOLOGY
 UNIVERSITY MEDICAL CENTER
 UNIVERSITY OF ARIZONA
 COLLEGE OF MEDICINE
 TUCSON, ARIZONA

On behalf of the University Medical Center at the Arizona Health Sciences Center of the University of Arizona, I appreciate the opportunity to state our concerns about legislation that would impose trade sanctions on the Toshiba Corporation and Kongsberg Vappesfabrick Company. Specifically, we ask that consideration be given to provide for the availability of parts for medical equipment.

Over the past five years Toshiba Medical Systems, a subsidiary of Toshiba Corporation Japan, has grown in significance as a provider of high technology patient care x-ray equipment in the United States. Toshiba Medical Systems has placed medical imaging equipment in over 200 hospitals and medical centers in the United States, including eight major university hospitals. Because of the breadth of Toshiba's involvement in the delivery of health care within the United States, the trade sanctions legislation currently pending before Congress holds the potential for significant and adverse impact on this delivery. Specifically, in order for hospitals with Toshiba equipment installed in their radiology departments to maintain operations, continuous and timely access to spare parts and supplies must be assured. It is critical that an exemption for replacement parts be granted in order that the existing Toshiba installations within the United States be maintained. Were spare parts to be included in any ban on sales, numerous radiology departments and hospitals around the country would be severely disrupted, at great expense, in the delivery of appropriate health care to our patients and their communities. Identified below are some of the repercussions which would be felt by hospitals across the country as well as how our University Medical Center would be impacted by any ban on spare parts.

- * Modern x-ray equipment, like many sophisticated high technology items, has extensive service requirements in order to be maintained at peak operating efficiency. Items such as x-ray tubes, computer chips, electrical components, and other items must be maintained in constant supply in order to maintain operations. Should replacement parts become immediately unavailable for Toshiba medical imaging equipment, radiology departments would be forced to remove their Toshiba equipment from service and replace it at significant cost. This loss of functioning equipment would have an incalculable financial impact on the delivery of health care in the effected hospitals.

- * Due to the significant cost of medical imaging equipment, many hospitals will find the immediate replacement of their Toshiba equipment to be financially infeasible. For example, University Medical Center's Toshiba equipment has an estimated replacement cost in excess of \$5 million.

Specific equipment items are:

<u>Equipment Item</u>	<u>Replacement Cost</u>
Computed Tomographic Scanner	\$ 750,000
Magnetic Resonance Scanner	2,000,000
Ultrasound Scanners (2)	300,000
Cardiac Catheterization Laboratory	1,200,000
Digital Angiography Suite	700,000
SPECT Camera	250,000

It is our understanding that replacement costs for all Toshiba Equipment placed in the United States is estimated to be about \$300 million.

- * As noted previously, prestigious university teaching hospitals, in addition to the University Medical Center, are involved in research and development activities with Toshiba Medical Systems. These are the University of Chicago and Massachusetts General Hospital. Other university hospitals using Toshiba equipment are Johns Hopkins University, Georgetown University, Thomas Jefferson University, George Washington University, Vanderbilt University, and the National Institutes of Health. The elimination of Toshiba equipment from these institutions could have broad and adverse impacts on medical research currently underway at these facilities, not to mention the delivery of patient care.
- * Due to significant lead times in acquisition and installation of medical imaging equipment, should hospitals have to replace their Toshiba equipment, substantial issues of revenue would result in addition to the cost of the new equipment. If the equipment were to break down, the diagnostic services afforded by much of this equipment would not be available for the treatment of care to our patients and could potentially threaten the lives of some patients.
- * Some of the hospitals which have installed Toshiba equipment are among the most important hospitals in the United States' health delivery system. The forced replacement of this equipment could place a significant burden on these facilities thus having a far broader impact on United States' health care than would be initially obvious.

On behalf of the University Medical Center at the Arizona Health Sciences Center of the University of Arizona, I appreciate the opportunity to state our concerns about legislation that would impose trade sanctions on the Toshiba Corporation and Kongsberg Vappenfabrick Company. Specifically, we ask that consideration be given to provide for the availability of parts for medical equipment.

August 14, 1987

Dan Rostenkowski
Illinois 8th District
House of Representatives - 2111 RBOB
Washington, D.C. 20510

Dear Rep. Rostenkowski:

As a newly naturalized American citizen, I share the concerns of my fellow Americans about the impact of Toshiba Machine Company's misdeed on the security of the United States and other countries of the Free World. However, the Senate action against Toshiba Corporation on June 30, 1987 was a rash, ill-informed action taken out of frustration. This action was grossly unfair to American citizens and will in no way rectify the damage that has been done nor prevent future security damage. This action is contrary to the American way of justice which led me to become an American citizen. It was not aimed at the real criminals but severely penalizes an entire corporation, including thousands of American citizens--employees of Toshiba America as well as related distributors, manufacturers and consumers. This action must be stopped before irreparable damage is done.

The illegal acts carried out secretly by certain employees of Toshiba Machine Company are reprehensible and should be thoroughly investigated with the help of American authorities. Japan should be forced to permit this investigation and then severely punish the guilty individuals, as well as establish strict safeguards to prevent a recurrence in the future. In addition, the Administration should seek compensation, financial or technical, from Toshiba Machine Company and Japan for failure to adequately enforce export control laws. This should be a negotiated settlement, not an arbitrary assessment by Congress. We do not live in an isolated world, no matter how justified we feel.

As you are probably aware, Toshiba Machine Company (TMC) is a loosely-held subsidiary of Toshiba Corporation. In fact, Toshiba owns only 50.8% of the stock of TMC, with the remaining 49.2% being publicly owned. TMC financial data are not consolidated into Toshiba's, and TMC's stock is even traded independently from Toshiba's on the Tokyo Stock Exchange. Since this is such an uncommon arrangement in the U.S., it is understandable that Americans may find it hard to believe that Toshiba management was not aware of the illegal activity. However, we must judge based on facts, not on our assumptions. We must also recognize that falsification of internal documents was involved as well as the collusion of a foreign company, so it is easy to understand how this matter was hidden from Toshiba Corporation management.

In light of all this, how can we as Americans, the standard-bearers of justice for the world, unfairly punish an entire corporation, and worse, thousands of innocent American citizens? I call on you as my representative and as a representative to the world of American principles to take serious action, but do it the American way--justly and effectively. Direct our justifiable outrage at the proper target, not your constituents.

Sincerely yours,

James Wang

James M. Wang
17382 Drey Lane
Huntington Beach, CA 92647

July 10, 1987

Hon. Dan Rostenkowski
Illinois 8th District
The House of Representatives
2111 RHOB
Washington, DC 20515

Dear Mr. Rostenkowski:

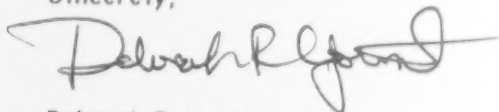
With regards to the present consideration of banning the importation of Toshiba products into the U.S., I would hope that as an elected official of this country you will investigate and study this situation thoroughly before taking action.

This country was founded on the concept of free trade. To inhibit free trade is to practice arbitrary regulatory control. This ban could effect the livelihood of over 4,000 U.S. citizens employed by Toshiba. Not to mention the dominoe effect of the numerous companies that serve Toshiba as suppliers that would also be hurt by such a ban.

Private industry punishes their own. Toshiba Corporation has already taken harsh measures on the Toshiba machine issue. To hold Toshiba up as an example for other corporations is wrong.

Please consider the residual repercussions and vote AGAINST the ban. Thank you for valued time.

Sincerely,



Deborah R. Yount
10308 Summertime Lane
Culver City, CA 90230